VICTOR VALLEY COLLEGE

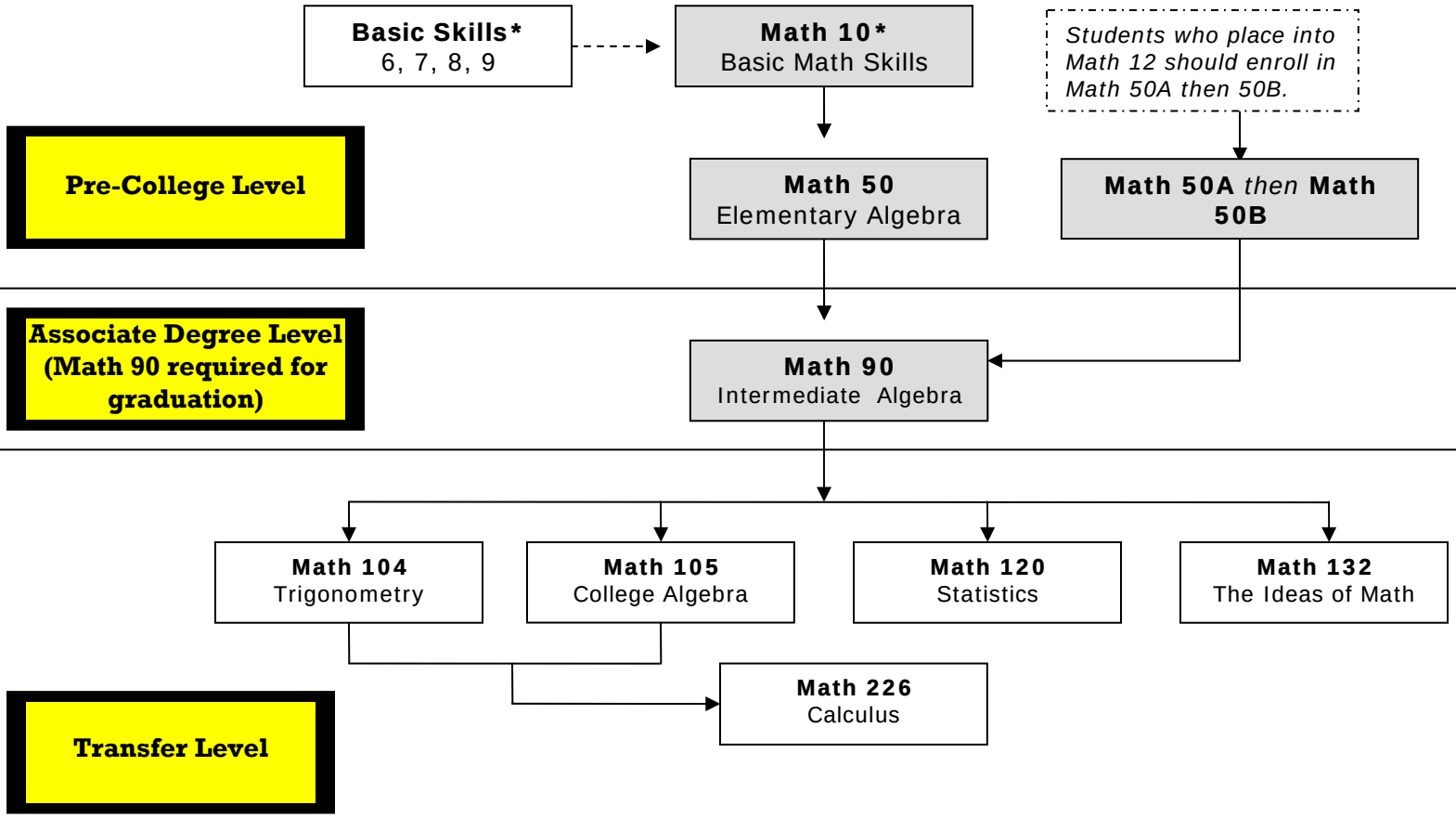
Addendum to the 2008-2010 Catalog

This document contains updates to courses and requirements that have occurred since the original printing of the Catalog.

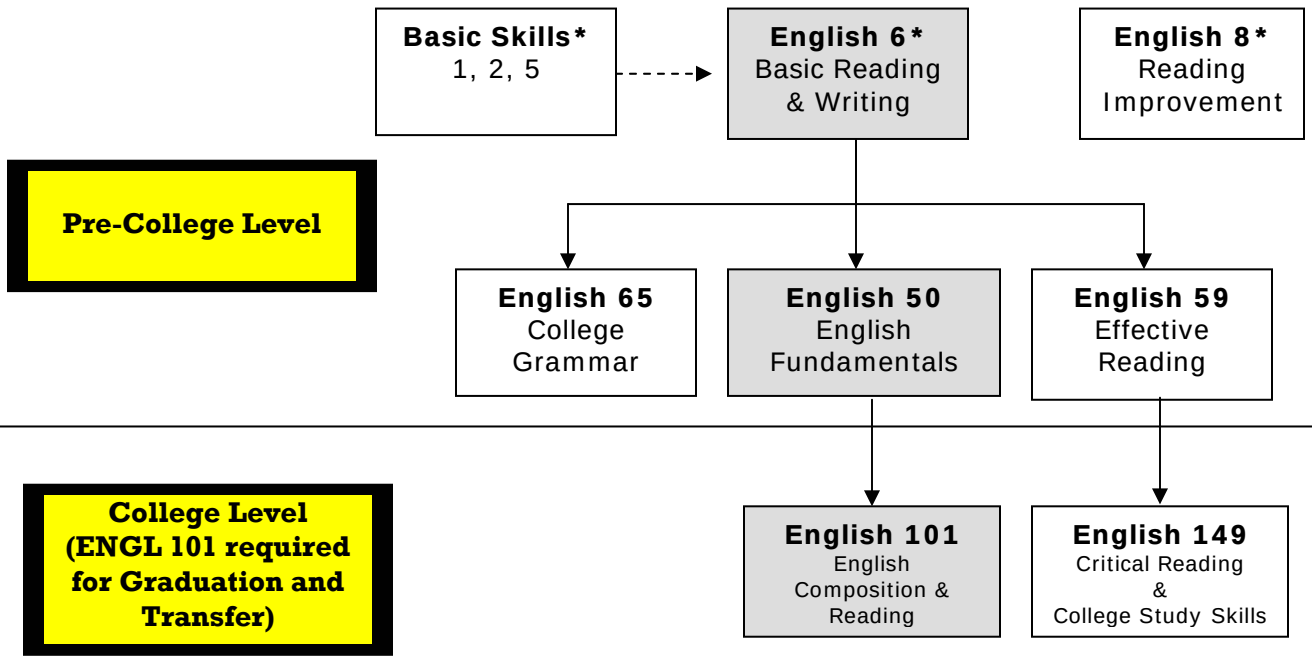
In addition to a complete listing of courses, you will find updated:

- sequences of math and English courses,
- requirements for the Associate Degree,
- the general education (GE) requirements for transfer to UC, and
- GE requirements for transfer to CSU

Math Course Sequences



English and Reading Course Sequences



Classes marked with an * do not count toward the associate degree.

Associate Degree in Liberal Arts (A.A.)

Use this sheet along with the transfer sheet (pink or blue) and VVC's grad requirements sheet (green)

The Liberal Arts major is designed to facilitate completion, for most majors, of the lower division general education (GE) requirements for transfer to the University of California (UC), to the California State University (CSU), and to those private institutions that accept the transfer patterns shown below. Often, you can fit your transfer major's lower division (community college) prerequisites into these courses; visit www.assist.org for information about your major and campus. Other transfer majors may be more appropriate for your needs; please consult with a counselor and/or visit assist.org for more information.

CHECKLIST OF REQUIREMENTS

Complete One Of The Following Transfer GE Patterns — *35-39 units*

Completing either of these patterns satisfies the GE requirements for the VVC Associate Degree

- ❑ **IGETC** (UC and/or CSU) – the "blue sheet" – more campuses, fewer course options
- ❑ **CSUGE** – the "pink sheet" – 23 CSU campuses, more course options

GE Certification assures that you will not be required to take additional lower division courses in the areas certified. On completion of the GE pattern, submit the Certification Request to Counseling.

Choose An Area Of Emphasis — *18 units*

Complete a minimum of 18 units from ONE area of emphasis, including at least TWO courses in any ONE discipline. Use courses for your Area of Emphasis from the GE pattern you selected above. Courses used in the Area of Emphasis cannot be double-counted to satisfy VVC's GE requirements (see "green sheet").

Note: All courses shown transfer to CSU; courses in **bold** transfer both to CSU and UC.

❑ **Mathematics and Science Emphasis** – *Complete at least one course in math and one in science*

ANTH 101, 101L; ASTR 101; BIOL 100, 104, 107, 109, **118,** 121**, 201, 202, 203, 211, 212, 221, 231, 232; CHEM 100, H100, 114, 201, 202, 206, H206, 207,** H207, **255, 281, 282; GEOG 101, 101L; GEOL 101, 102, 103, 110; MATH** 104**, 105, H105, 119, 120, H120, 132, 226, 227, 228, 231, 270; OCEA 101; PSCI 101, 114,** 115**; PHYS 100, 201, 202, 203, H204, 221, 222**

❑ **Arts/Humanities Emphasis**

ANTH 106; ART 101, 102, 103**, 104, 105, 106, 107, 108**, 109, 112, 113, 114**, 120,** 122**,** 125, 150**; CMST 105 (Intercultural); ENGL 102, H102, 116*, 162,** 210, 211, **220, 225, 230, 231, 232, 235, 240, 241, 245, 246, 247; HIST 103, 104,** 115**, 117, H117, 118, H118, 119, 120, 121, 124, 125, 130, 131, 135, 150, 153, 155, 157; MUSC 100, 101, 102, 103, 115, 116, 117, 118,** 131**, 202, 204; PHIL 101, 108, 117, 120, 121; PE 103 (Dance); RLST 101, 105, 106, 110, 111, 115, 117; TA 101, 102,** 104**,** 107, 110, **116*,** 117

Languages: CMST (ASL) 122, 123, 124, 125; FREN 101, 102, 103, 104; GERM 101, 102, 103, 104; LATN 101, 102; SPAN 101, 102, 103, 104

*Engl 116 and TA 116 are the same course

❑ **Social/Behavioral Science Emphasis**

AJ 101**; ANTH 101, 102, 103, 105, 106; CHDV 100, 106; CMST 105 (Intercultural); ECON 101, 102; GEOG** 101**, 102, 103; HIST 103, 104, 115, 117, H117, 118, H118,** 119**, 120, 121, 124, 125, 127, 130, 131,** 135, 150, 153**, 155,** 157**; POLS 101, 102,** H102, 103**, 110,** H110, **111, 112, 113; PSYC 101, H101, 103, 110, H110, 111, 116, 121,** 130**, 204, 213; RLST** 105, 106, 110, **113, 115; SOC 101, 102,** 103**, 107**

Other Graduation Requirements

- ❑ Complete courses numbered 50 or above to bring total units to at least 60; note that **only courses numbered 100 and above will transfer to a university**
- ❑ Complete at least 12 units at Victor Valley College
- ❑ Pass at least one PE course (HLTH 102 or PE 103, if used above, can also count for PE)
- ❑ Satisfy the Information Competency requirement
- ❑ Apply for the A.A. degree by the deadline
- ❑ Verify that you've satisfied all other requirements

VICTOR VALLEY COLLEGE ASSOCIATE DEGREE GRADUATION REQUIREMENTS 2009-2010

A. General Requirements for Graduation.....minimum 60 units

__ 1. Complete 60 degree-applicable units (courses numbered 50 and above), not to include more than 4 units of physical education activity.
__ 2. Earn a cumulative GPA of 2.0 or higher in all degree-applicable units including all units from other colleges attended if applicable.
__ 3. Complete at least 12 units at Victor Valley College.
__ 4. Complete an application for graduation before the deadline. Deadlines are published each year in the VVC catalog. Applications for degrees and certificates are available in Admissions and Records and in Counseling.
__ 5. Have official transcripts from other colleges attended and/or Advanced Placement scores sent to VVC. Students are responsible for furnishing official transcripts. Final evaluation and acceptance of transfer courses taken at other accredited colleges will be determined by the Registrar's Office at the time the student's graduation application is evaluated. VVC may not accept credits from all institutions of higher education.
__ 6. Minimum proficiencies in English, Reading, Math, and Information Competency are met by completing the general education requirements.

B. Major.....minimum 18 units

NOTE: SEE REVERSE SIDE FOR A LIST OF ASSOCIATE DEGREE MAJORS

Major course	C	IP	N	Major course	C	IP	N	Major course	C	IP	N

C. General Education.....minimum 18 units

A course may not fulfill more than one area, except for PE; see below. Legend: **C** = COMPLETED units **IP** = IN PROGRESS units **N** = NEEDED units

	C	IP	N
Category I: Natural Science.....minimum 3 units **ANTH** 101, 101L; **ASTR** 101; **BIOL** 100, 104, 107, 109, 114, 118, 121, 201, 202, 203, 211, 212, 221, 231, 232; **CHEM** 100, H100, 114, 201, 202, 206, H206, 207, H207, 255, 281, 282; **GEOG** 101, 101L; **GEOL** 101, 102, 103, 110; **HLTH** 102; **OCEA** 101; **PSCI** 101, 114, 115; **PHYS** 100, 201, 202, 203, H204, 221, 222			
Category II: Social and Behavioral Science.....minimum 3 units **AJ** 101; **ANTH** 101, 102, 103, 105, 106; **CHDV** 100, 106; **CMST** 105 (Intercultural); **ECON** 101, 102; **GEOG** 101, 102, 103; **GUID** 105*; **HIST** 103, 104, 115, 117, H117, 118, H118, 119, 120, 121, 124, 125, 127, 130, 131, 135, 150, 153, 155, 157; **POLS** 101, 102, H102, 103, 110, 111, 112, 113; **PSYC** 101, H101, 103, 105*, 110, H110, 111, 116, 121, 125, 130, 133, 204, 213; **RLST** 105, 106, 110, 113, 115; **SOC** 101, 102, 103, 107			
Category III: Humanities.....minimum 3 units **ANTH** 106; **ART** 101, 102, 103, 104, 105, 106, 107, 108, 109, 112, 113, 114, 120, 122, 125, 150; **CMST** 105 (Intercultural); **ENGL** 102, H102, 116*, 162, 210, 211, 220, 225, 230, 231, 232, 233, 235, 240, 241, 245, 246, 247; **HIST** 103, 104, 115, 117, H117, 118, H118, 119, 120, 121, 124, 125, 127, 130, 131, 135, 150, 153, 155, 157; **MUSC** 100, 101, 102, 103, 115, 116, 117, 118, 131, 202, 204; **PHIL** 101, 108, 117, 120, 121; **PE** 103; **RLST** 101, 105, 106, 110, 111, 115, 117; **TA** 101, 102, 104, 107, 110, 116* **Languages: CMST** (ASL) 122, 123, 124, 125; **FREN** 101, 102, 103, 104; **GERM** 101, 102, 103, 104; **LATN** 101, 102; **SPAN** 101, 101A, 101B, 102, 103, 104			
Category IV: Language & Rationality *Note: Courses in Category IV must be completed with grade of "C" or better.* **a. English Composition.....minimum 3 units** **ENGL** 101, H101 ***Note:*** VVC's English 101 satisfies the Information Competency requirement. If you took English Composition at another college, you will need to complete the Info Competency assessment given at the VVC Library. ❑ Information Competency requirement satisfied.			
b. Communication & Analytical Thinking.....minimum 3 units **ENGL** 102, H102, 104, H104; **PHIL** 109, 207*; **RLST** 207*; **CMST** 106, 107, 108, 109			
Category V: Mathematics *Note: Course in Category V must be completed with grade of "C" or better.*.....**minimum 3 units** **MATH** 90, 104, 105, H105, 119, 120, H120, 132, 226, 227, 228, 231, 270			
*__GUID__ 105 and __PSYC__ 105 are the same course; __ENGL__ 116 and __TA__ 116 are the same course; __PHIL__ 207 and __RLST__ 207 are the same course. **Total units**			

D. Physical Education.....minimum one course

Any activity or non-activity (lecture) PE course of 1 unit or more will fulfill this requirement. Completion of military basic training fulfills this requirement. Health 102 (Category I) or PE 103 (Category III) can simultaneously satisfy the PE requirement. Athletics courses *are not* used to fulfill the PE requirement.

E. Electives... List courses taken to complete the graduation requirement of 60 units which have not been used to fulfill any other requirement above:

Elective course	C	IP	N	Elective course	C	IP	N	Elective course	C	IP	N

Victor Valley College Associate Degree Majors

Associate in Science (A.S.) degrees are awarded in Math/Science and various technical areas;
Associate in Arts (A.A.) degrees are awarded in the areas of Liberal Arts and Fine Arts.

All majors require at least 18 units; some have specific course requirements.
Courses numbered 138 (e.g., AUTO 138) only apply as electives, not in a major.

Administration of Justice, A.S.
Agriculture and Natural Resources, A.S.
Automotive Technology, A.S.
Business, A.S.
Business Administration, A.S.
Business Education Technologies, A.S.
Business Real Estate and Escrow, A.S.
Child Development, A.S. *
Computer Information Systems, A.S.
Computer Integrated Design and Graphics, A.S.
Construction and Manufacturing Technology, A.S. *
Electronics and Computer Technology, A.S.
Electronics Engineering Technology, A.S. *
Fine Arts, A.A. (see below)
Fire Technology, A.S.
Liberal Arts, A.A. (see separate sheet)
Math/Science, A.S. (see below)
Medical Assistant, A.S. *
Nursing, A.S. *+
Paramedic, A.S. *+
Respiratory Therapy, A.S. *+
Restaurant Management, A.S.
Welding, A.S. *

* Requires specific courses and more than 18 units to fulfill major. See College Catalog for more information.
\+ Requires application and admission to the program.

Fine Arts Major, A. A. *Select a minimum of 18 units from the following courses:*

ANTH 151; ART 101, 102, 103**, 104, 105, 106, 107, 108, 109, 112, 113, 114, 115, 120, 121, 122, 123, 124, 125, 126, 128, 129**, 130, 131,132, **133, 141, 142, 150, 151; ENGL 116*; MUSC 100, 101, 102, 103, 104, 105, 108, 110, 111**, 112, 113, **115, 116, 117, 118, 120A-J, 122, 123, 124, 125, 126, 128, 129, 130, 131, 132, 134, 136, 137, 139, 140, 141, 143,** 144, **145, 146, 147, 202, 203, 204, 205, 210, 211**; **PHOT** 52, 53, 54, **100, 101**, 102, 103, 104, 105, **128, 129; PE 103, 128; PEDA 101, 150, 151, 152**, 153, **160, 161, 162, 163, 164, 165, 166, 167, 169, 170, 171, 174, 175**, 176, 177, **266, 267, 270, 271, 274, 275**, 276, 277; **TA 101, 102, 104, 106, 107, 109, 110, 111**, 113, **115, 116*, 117, 120, 125ABC, 128, 129, 160, 161, 166, 167, 170, 171, 174, 175, 266, 267, 270, 271, 274, 275**

Note: PE/PEDA activity classes: 4 units maximum.

Math/Science Major, A. S. *Select a minimum of 18 units from the following courses:*

ANTH 101, 101L; **ASTR 101**; **BIOL** 70, **100, 104**, 107, 109, 113, **114, 118**, 120, **121**, 126, 127, 128, 129, **149, 201, 202, 203, 211, 212**, 215A, 215B, 215C, **221, 231, 232**; **CHEM** 55, **100, H100, 114**, 120*, **128, 129**, 201, **202, 206, H206, H207, 207**, 255, **281, 282**; **ELCT** 57, 58, 59, 60; **GEOG 101, 101L, 103**; **GEOL 101, 102, 103**, 109, **110**, 112, **128, 129**; **HLTH 102**; **MATH** 104, **105, H105**, 119, **120**, H120, **128, 129, 132, 226, H226, 227, H227, 228, H228, 231, 270**; **OCEA 101**; **PSCI 101, 114**, 115, **128**; **PHYS 100, 128, 129, 201, 202,** 203, H204, 221, 222; RMGT 120*

*CHEM 120 and RMGT 120 are the same course

To earn a second Associate Degree, the General Education courses stay the same, but you must complete 18 units in the new major, paying attention to any specific requirements for that major.

Tip: To transfer to a university for a Bachelor's Degree, choose courses for your Associate's Degree that simultaneously satisfy your university's lower division requirements. To transfer to the University of California (UC) or to the California State University (CSU), you will most likely want to complete the Intersegmental General Education Transfer Curriculum (IGETC) or, for CSU only, the General Education Requirements for Transfer Certification (CSUGE) as part of your Associate's Degree. Visit www.assist.org and see a counselor for more information.

For a current list of occupational certificates offered, see the Catalog or visit www.vvc.edu.

IGETC VICTOR VALLEY COLLEGE 2009-2010
INTERSEGMENTAL GENERAL EDUCATION TRANSFER CURRICULUM (IGETC)

Student's Name_____ **Social Security #**_____ **Birthdate**_____
Last First Middle Month Day Year

For information on preparing for your major, visit www.assist.org

OBJECTIVE: Completion of all the requirements in the Intersegmental General Education Transfer Curriculum (IGETC) will permit a student to transfer from a community college to a campus in either the California State University or the University of California system without the need, after transfer, to take additional lower-division general education courses to satisfy campus general education requirements.

EXCEPTIONS: All campuses will accept IGETC except UC Berkeley's Haas School of Business and UC San Diego's Roosevelt and Revelle Colleges. Also, IGETC is not recommended for science, engineering, or other high unit majors at most campuses. These students should follow the general education pattern of the specific campus which they plan to attend. Visit assist.org for more information.

CERTIFICATION: All areas of the IGETC should be certified prior to transfer. Partial certification may be awarded if all but two (2) courses in any areas except Group 1 and 2 are completed. Students are responsible for requesting IGETC certification by completing the REQUEST FOR CERTIFICATION OF TRANSFER GENERAL EDUCATION REQUIREMENTS form from Counseling.

Each course must be completed with a grade of "C" or better.

Legend: C = Units Completed IP = Units In Progress N = Units Needed

AREA 1 - ENGLISH COMMUNICATION **CSU**: Three courses required, one from Group1A, one from Group 1B, and one from Group 1C. **UC**: Two courses required, one from Group 1A and one from Group1B.	C	IP	N
Group 1A: ENGLISH COMPOSITION (Choose one course, 3 semester units minimum.) ENGL 101, ENGL H101 Course from Other College:_____ Advanced Placement_____ (Test Name and Score)			
Group 1B: CRITICAL THINKING AND ENGLISH COMPOSITION (Choose one course, 3 semester units minimum.) ENGL 104, H104; PHIL 207*, RLST 207* Course(s) from Other College:_____			
Group 1C: ORAL COMMUNICATION - CSU requirement only (Choose one course, 3 semester units minimum.) CMST 106, 108, 109 Course from Other College:_____			

AREA 2 - MATHEMATICAL CONCEPTS AND QUANTITATIVE REASONING Choose one course, 3 semester units minimum.			
MATH 105, H105, 119, 120, H120, 132, 226, 227, 228, 231, 270 Course from Other College:_____ Advanced Placement_____ (Test Name and Score)			

AREA 3 - ARTS AND HUMANITIES Choose three courses to include one from **Group 3A: Arts** and one from **Group 3B: Humanities**, 9 semester units minimum.			
Group 3A: ARTS ART 101, 102, 104, 105, 106, 107, 108; ENGL 116*; MUSC 100, 101, 102, 103, 115, 116, 117, 118, 202, 204; PE103 (Dance); TA 101, 102, 116* Course(s) from Other College:_____ Advanced Placement_____ (Test Name and Score)			
Group 3B: HUMANITIES ANTH 106; ENGL 102, ENGL H102, 162, 220, 225, 230, 231, 232, 233, 240, 241, 245, 246, 247; French 103, 104; GERM 103, 104; HIST 103, 104, 117, H117, 118, H118, 119, 120, 121, 124, 125, 130, 131, 135, 150, 153, 155, 157; PHIL 101, 108, 117, 120, 121; RLST 101, 105, 106, 110, 111, 115, 117: SPAN 103, 104; CMST 105 (Intercultural), 124 (ASL), 125 Course(s) from Other College:_____ Advanced Placement_____ (Test Name and Score)			
Group 3: One additional course from any of the above courses listed under 3A or 3B Course(s) from Other College:_____ Advanced Placement_____ (Test Name and Score)			

*Cross-listed courses are the same course listed under different departments. PHIL 207 is the same as RLST 207. ENGL 116 is the same as TA 116.

Legend: C = Units Completed IP = Units In Progress N = Units Needed

AREA 4 - SOCIAL AND BEHAVIORAL SCIENCES

Choose three courses from at least two different disciplines, 9 semester units minimum.

C	IP	N

ANTH 101, 102, 103, 105, 106; CHDV 106; CMST 105 (Intercultural); ECON 101, 102; GEOG 102; HIST 103, 104, 115, 117, H117, 118, H118, 120, 121, 124, 125, 127, 130, 131, 155; POLS 101, 102, 110, 111, 112, 113; PSYC 101, H101, 110, H110, 111, 116, 121, 204, 213; RLST 113, 115; SOC 101, 102, 107

Course(s) from Other College:_____ Advanced Placement_____
Test Name and Score

No credit for PSYC 110 if taken after 111, 116 or 130. PSYC 110, 111, 116 and 130 combined: maximum credit, three courses.

AREA 5 - PHYSICAL AND BIOLOGICAL SCIENCES

Choose at least two courses, one from **5A: Physical Sciences** and one from **5B: Biological Sciences**, 7 semester units minimum. At least one course must include a laboratory, indicated by (L).

C	IP	N

Group 5A: PHYSICAL SCIENCES

ASTR 101; CHEM 100(L), H100(L), 114, 201(L), 202(L), 206(L), H206, 207(L) 255, 281, 282; GEOG 101, 101L(L); GEOL 101(L),102(L), 103, 110(L); OCEA 101; PSCI 101; 114 PHYS 100(L), 201(L), 202(L), 203(L), H204(L), 221(L), 222(L)

Course from Other College:_____ Advanced Placement_____
Test Name and Score

NOTE: No credit for CHEM 100 or H100 if taken after CHEM 201. No credit for PSCI 101 if taken after a college course in astronomy, chemistry, geology, meteorology, oceanography or physics. No credit for PHYS 100 if taken after PHYS 201 or 221. PHYS 221, 222 and 201, 202, 203, H204 combined: maximum credit, one series.

Group 5B: BIOLOGICAL SCIENCES

BIOL 100(L), 104(L), 114, 118, 201(L), 202(L), 203(L), 211(L), 212(L), 221(L), 231(L), 232(L); ANTH 101, 101L(L)

Course From Other College:_____ Advanced Placement_____
Test Name and Score

NOTE: BIOL 211 and 212 combined: maximum credit, one course. No credit for BIOL 100 if taken after BIOL 201, 202 or 203. BIOL 231 and 232 combined: maximum credit, one course.

LANGUAGE OTHER THAN ENGLISH - UC Requirement for IGETC Certification

May be fulfilled in one of the following ways:

C	IP	N

____ Complete 2 years of the same foreign language in high school with a grade of "C" or better. *Submit official high school transcript to VVC Admissions and Records Office.*

OR

____ Complete one of the following Victor Valley College foreign language courses or equivalent course at another college: CMST 123 (ASL); FREN 102; GERM 102; LATN 102; SPAN 102

OR

____Complete two years of formal schooling at the 6th grade level or above at an institution where English is not the language of instruction. *Submit official translation of transcript to VVC Admissions and Records Office.*

OR

____ Score of 3 or higher on Foreign Language Advanced Placement test, or a score of 550 or higher on the College Board Achievement Test in Foreign Language. *Submit official transcript to VVC Admissions and Records Office.*

Test Name_____ Score_____ Date taken_____

U.S. HISTORY, CONSTITUTION AND AMERICAN IDEALS

CSU Graduation Requirement Only

Not part of certification of IGETC, but highly recommended to be completed prior to transfer. One course from Group 1 and one course from Group 2; 6 semester units minimum.

C	IP	N

Group 1: POLS 102 **Group 2:** HIST 117 OR 118

NOTE: Courses used to meet this requirement DO NOT count toward fulfilling requirements in Areas 3 or 4 of IGETC for CSU.

A course may not be used to fulfill more than one requirement even though it may be listed in more than one area. Credit will be given for either the honors or non-honors version of a course, not both. For example, 4 units for Math 105 or Math H105, not both.

CERTIFICATION: ☐ CSU graduation requirement in U.S. History, Constitution, and American Ideals fulfilled
FULL IGETC CERTIFICATION for the following university system(s): ☐ University of California ☐ California State University
PARTIAL CERTIFICATION for ☐ UC ☐ CSU – The following have been completed: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ Foreign Lang

College evaluator_____ **Title**_____ **Date**_____

CSU **Victor Valley College** **2009-2010**

California State University (CSU)
General Education Requirements for Transfer Certification

Student's Name_____ **Social Security #**_____ **Birthdate**_____
Last First Middle Month Day Year

For information on preparing for your major, visit www.assist.org

Certification:
1. If possible, complete the following lower-division general education requirements in Areas A-E before transferring to any of the 23 campuses of the CSU system.
2. Victor Valley College awards a student full or partial certification by subject area for completion of the following lower-division general education transfer requirements.
3. In accordance with Executive Order 595, students admitted to any CSU with full or partial certification will not be held to any additional lower-division general education requirements in the areas certified. Students may be held to other lower division graduation requirements.
4. Full Certification - All areas completed with a minimum of 39 units.
5. Partial Subject Area Certification - Areas A,B,C, and D completed with a minimum of 9 units in each area and Area E completed with a minimum of 3 units.
6. If not fully certified, students may be held responsible for completing the general education pattern of the specific college to which they transfer.

Important Points:
1. A minimum of 9 additional semester units of upper-division general education must be completed at the CSU campus.
2. If a student completes a course in a year it did not appear on the CSU General Education course list, it cannot be used for GE certification.
3. A minimum of 60 units of transferable courses must be completed to transfer as a junior.
4. Credit is awarded for either an honors or non-honors course, not both. For example, students may receive credit for Math 105 or Math H105, not both.
5. A single course may not fulfill more than one general education requirement even though it may be listed in more than one area.

DIRECTIONS: Circle courses and tally units in appropriate columns.

Legend: C = Units Completed IP = Units In Progress N = Units Needed

AREA A. COMMUNICATION IN THE ENGLISH LANGUAGE AND CRITICAL THINKING.....minimum 9 units *Choose one course from each of the three areas below. Each course from Area A must be completed with a "C" grade or better.*	**C**	**IP**	**N**
A1 COMMUNICATION CMST 106, 107, 108, 109 Course from other college:			
A2 WRITTEN COMMUNICATION ENGL 101, H101 Course from other college:			
A3 CRITICAL THINKING ENGL 104, H104, PHIL 109, 207*, RLST 207* Course from other college:			
AREA B. SCIENTIFIC INQUIRY AND QUANTITATIVE REASONING.....minimum 9 units *Choose at least one course from B1 Physical Sciences, one course from B2 Life Sciences, and one course from B4 Mathematics. At least one science course must include a laboratory to fulfill B3.*			
B1 PHYSICAL SCIENCE *Courses which include a LABORATORY:* CHEM 100, H100, 201, 202, 206, H206, 207, H207, 255, 281, 282 GEOG 101+101L GEOL 101, 102, 110 PHYS 100, 201, 202, 203, H204, 221, 222 *Courses which do NOT include a laboratory:* ASTR 101; CHEM 114 GEOG 101; GEOL 103 OCEA 101 PSCI 101, 114, 115 Course from other college:			
B2 LIFE SCIENCE *Courses which include a LABORATORY:* ANTH 101 + 101L BIOL 100, 104, 107, 109, 121, 201, 202, 203, 211, 212, 221, 231, 232 *Courses which do NOT include a laboratory:* ANTH 101 BIOL 114, 118 Course from other college:			
B3 LABORATORY ACTIVITY *Any science course in Area B1 or B2 which includes a lab fulfills this requirement. Check appropriate box.*			
B4 MATHEMATICS *The course used to fulfill B4 must be completed with a "C" grade or better.* MATH 104, 105, H105, 119, 120, H120, 132, 226, 227, 228, 231, 270 Course from other college:			

*Cross-listed courses are the same course listed under different departments. PHIL 207 is the same course as RLST 207.

AREA C. ARTS AND HUMANITIES……minimum 9 units *Choose at least one course from the ARTS and one course from the HUMANITIES.*	**C**	**IP**	**N**
C1 ARTS ART 101, 102, 103, 104, 105, 106, 107, 108, 109, 112, 113, 114, 120, 122, 125, 150 PE 103 (History of Dance) ENGL 116* MUSC 100, 101, 102, 103, 115, 116, 117, 118, 131, 202, 204 TA 101, 102, 107, 110, 116* Course from other college:			
C2 HUMANITIES ANTH 106 CMST 105 (Intercultural Communication) ENGL 102, H102, 116*, 162, 210, 211, 220, 225, 230, 231, 232, 233, 235, 240, 241, 245, 246, 247 Foreign Language: CMST (ASL) 122, 123, 124, 125; FREN 101, 102, 103, 104; GERM 101, 102, 103, 104; LATN 101, 102; SPAN 101, 102, 103, 104 HIST 103, 104, 115, 117, H117, 118, H118, 119, 120, 121, 124, 125, 127, 130, 131, 135, 150, 153, 155, 157 PHIL 101, 108, 117, 120, 121 RLST 101, 105, 106, 110, 111, 115, 117 TA 104, 116* Course from other college:			
C ONE ADDITIONAL COURSE FROM ANY OF THE ABOVE COURSES LISTED UNDER C1 OR C2 Course used from above: Course from other college:			
AREA D. SOCIAL SCIENCE……minimum 9 units *Choose courses from at least **TWO** different subject areas in AREA D.*			
UNITED STATES HISTORY REQUIREMENT FOR CSU GRADUATION HIST 117, H117, 118, or H118 Course from other college:			
UNITED STATES CONSTITUTION AND AMERICAN IDEALS REQUIREMENT FOR CSU GRADUATION POLS 102 or H102 Course from other college:			
ONE ADDITIONAL COURSE FROM AREA D *Choose one additional course not used above from the following:* AJ 101 ANTH 101, 102, 103, 105, 106 CHDV 100, 106 CMST 105 (Intercultural Communication) ECON 101, 102 GEOG 101, 102, 103 HIST 103, 104, 115, 117, H117, 118, H118, 119, 120, 121, 124, 125, 127, 130, 131, 135, 150, 153, 155, 157 POLS 101, 102, H102, 103, 110, 111, 112, 113 PSYC 101, H101, 103, 110, H110, 111, 116, 121, 130, 204, 213 RLST 105, 106, 110, 113, 115 SOC 101, 102, 103, 107 Course(s) from other college: *NOTE: Students may use any 9 units from this section to fulfill certification requirements for Area D, but they are encouraged to complete the above U.S. History, Constitution and American Ideals requirement as part of Area D. All CSU campuses, except Chico State, permit these courses to also satisfy Area D requirement.*			
AREA E. LIFELONG UNDERSTANDING AND SELF-DEVELOPMENT.....minimum 3 units			
ALDH 125 CHDV 100 GUID 105* HLTH 102 PSYC 101, H101, 103, 105*, 110, H110, 121, 125, 130, 133 SOC 103 PE 104 ***OR*** PE 150 (taken as a 2-unit course) ***AND*** 1 unit from APE 160; PE 160, 161, 162, 163, or 164 Course(s) from other college:			
*Cross-listed courses are the same course listed under different departments. GUID 105 and PSYC 105 are the same course. ENGL 116 and TA 116 are the same course. **TOTAL**			

CERTIFICATION

The student has fulfilled the following California State University requirements in U.S. History, Constitution and American Ideals:

☐ **U.S. HISTORY:**
HIST 117, H117, 118 or H118
Course from other college:_____

☐ **U.S. CONSTITUTION AND AMERICAN IDEALS:**
POLS 102 or H102
Course from other college:_____

The student has fulfilled the following lower division requirements for general education certification:

FULL CERTIFICATION ☐ **OR** **PARTIAL CERTIFICATION: Subject Areas Certified** **A** ☐ **B** ☐ **C** ☐ **D** ☐ **E** ☐

College Evaluator_____ **Title**_____ **Date**_____

COURSE DESCRIPTIONS

“The very spring and root of honesty and virtue lie in good education.”

-Plutarch
46-120 A.D.

ADMINISTRATION OF JUSTICE

AJ 8.0 PC 832.3 Campus Law Enforcement 2.0 Units
This course complies with the state requirements for K-12 and Community College peace officer training per Penal Code 832.3g, certified by the state Commission on Peace Officer Standards and Training. This course includes the role and responsibilities of campus police, search and seizure, student discipline and records, crimes against persons and property, mandatory reporting of child abuse, and disaster preparedness. 32-36 hours lecture. This course will not apply to the Associate Degree. (No Prerequisite. Pass/No Pass) This course may be repeated as required.

AJ 25 Public Safety Dispatcher 5.5 Units
This course complies with the Commission on Peace Officer Standards and Training (POST) requirements for Public Safety Dispatchers. This course includes the criminal justice system, criminal law, communication technology, telephone and radio procedures, missing persons, domestic violence, cultural diversity, sexual harassment, gang awareness, emergency medical services and stress management. 80-90 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (No Prerequisite. Credit/No Credit) This course may be taken four times.

AJ 30 PC 832 Firearms 0.5 Unit
This course satisfies the Commission on Peace Officer Standards and Training (POST) firearms certification for the Level III reserve and PC 832. Additionally, this course exceeds the State of California firearms safe handling and use certification required from any person purchasing a firearm in California. This course will not apply to the Associate Degree. 24-27 hours laboratory. (Prerequisite. All students must have a DOJ criminal record clearance, in writing, from DOJ before registering for this class. Pass/No Pass) This course may be repeated as required.

AJ 31 Fingerprint Recognition and Classification 2.5 Units
This course offers instruction in fingerprint recognition and classification to a person without any prior knowledge in fingerprint patterns. Every person who is successful in this course will be able to recognize and accurately classify a fingerprint and distinguish a known fingerprint from an unknown fingerprint. This course will not apply to the Associate Degree. 40-45 hours lecture. (No prerequisite. Credit/No Credit) This course may be repeated as required.

AJ 58 PC 832 Laws of Arrest 3.0 Units
This course complies with the requirements of the Commission on Peace Officers Standards and Training for certification in PC 832. This course includes professionalism, law, evidence, investigation, arrest methods and control, community relations, and communication skills for interviewing and interrogation. 48-54 hours lecture. (No prerequisite; Credit/No Credit) This course may be repeated as required.

AJ 64 Basic Corrections Officer Academy 8.0 Units
This course satisfactorily meets the requirements of section 1020 of the California Administrative code, Minimum Jail Standards and the Basic Jail/Adult Institution requirements of the S.T.C. program. 112-126 hours lecture and 48-54 hours laboratory. (No prerequisite; Credit/No Credit) This course may be repeated.

AJ 67 Crime Scene Investigation 3.5 Units
This course concentrates on the technical aspects of evidence collection, crime scene reconstruction, crime scene photography, evidence packaging, and court room testimony. The student is prepared to distinguish between trace, stain, and impression evidence and the role of these types of evidence in criminal investigations. 48-54 hours lecture and 24 hours laboratory. (No prerequisite)

AJ 73 Legal Aspects of Corrections 3.0 Units
This course provides students with an awareness of the historical framework, concepts and precedents that guide correctional environment, the civil rights of prisoners and responsibilities and liabilities of correction officials. Emphasis will be placed on federal case law and its application to correctional work. 48-54 hours lecture. (No prerequisite)

AJ 75 Juvenile Counselor Course 6.0 Units
The Juvenile Counselor Core Course is designed specifically for the individual seeking employment with the County Probation Department and working in any Juvenile Intake Center. This course is certified by the California Board of Corrections, Standards and Training Corrections (STC). The course includes the Criminal Justice System, psychological and medical issues in an intake center, identifying sociological and cultural issues, assaultive behavior and evasive tactics, supervision, security and counseling case work. In addition, First Aid/CPR must be completed as part of this course or have current certification. 88-99 hours lecture and 24-27 hours laboratory. (No Prerequisite. Credit/No Credit) This course may be taken two times.

AJ 80 Level III Modulated Law Enforcement Basic Course 6.5 Units
This course complies with the Commission on Peace Officers Standards and Training (POST) requirements for the Level III Modulated Basic Course. This course includes professionalism and ethics; criminal law; laws of arrest and search and seizure; report writing, vehicle operations; use of force and force options; chemical agents; and firearms training. 86 hours lecture and 85 hours laboratory. (No Prerequisite. Credit/No Credit) This course may be taken four times.

AJ 81 Level II Modulated Law Enforcement Basic Course 9.0 Units
This course complies with the Commission on Peace Officers Standards and Training (POST) requirements for the Level II Modulated Basic Course. This course includes community relations; victimology; Crimes against property and persons; crimes against children; specific sex crimes; search and seizure law; investigative report writing; crimes in progress and patrol tactics; use of force; defensive tactics; and firearms training. 121 hours lecture and 133 hours laboratory. (Prerequisites: AJ 80 and Department of Justice criminal record clearance. Credit/No Credit.) This course may be taken four times.

AJ 91 Corrections Supervision and Control 3.0 Units
Students will learn to supervise and control inmates in the emotionally charged atmosphere of adult corrections. They will learn to detect and mitigate problems using motivational and communications techniques. They will learn to set and enforce standards. These skills are invaluable in a corrections environment. 48-54 hours lecture. (No prerequisite) This course may be taken two times.

AJ 101 Introduction to the
(CAN AJ 2) Administration of Justice 3.0 Units
This course provides an overview of the history and philosophy of the criminal justice system as it evolved. The course provides an in-depth study of the American system and the various sub-systems; roles and role expectations of criminal justice agents in their interrelationships in society; concepts of crime causation, punishment and rehabilitation; ethics, education and training for professionalism in the criminal justice system. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite)

AJ 102 Criminal Procedures 3.0 Units
Legal processes from pre-arrest through trial, sentencing and correctional procedures. A review of the history of case and common law; conceptual interpretations of law as reflected in court decisions. A study of case law methodology and case research as the decisions impact upon the procedures of the justice system. 48-54 hours lecture. CSU. (No prerequisite)

AJ 103 Criminal Law 3.0 Units
(CAN AJ 4)
Historical development, philosophy of law and constitutional provisions; definitions, classifications of crime and their applications to the system; legal research, review of case law, and concepts of law as a social force. Explores crimes against persons, property and the state as a social, religious, and historical ideology. 48-54 hours lecture. CSU, UC (No prerequisite)

AJ 104 Legal Aspects of Evidence 3.0 Units
(CAN AJ 6)
Origin, development, philosophy, and constitutional basis of evidence; constitutional and procedural considerations affecting arrest, search, and seizure; kinds and degrees of evidence and rules governing admissibility; judicial decisions interpreting individual rights and case studies viewed from a conceptual level. 48-54 hours lecture. CSU. (No prerequisite)

AJ 126 Traffic Enforcement and Investigation 3.0 Units
A study of the fundamentals of accident investigation and reconstruction employing the principles of crime scene initial survey, evidence collection, skid mark analysis, and interviewing techniques. Includes the study and comprehension of the California Vehicle Code. 48-54 hours lecture. CSU. (No prerequisite)

AJ 127 Crime and Delinquency 3.0 Units
Formerly Fundamentals of Crime and Delinquency.
An introduction to major types of criminal behavior, characteristics of offenders, factors which contribute to crime and delinquency; the criminal justice process; the function of law enforcement, the courts, probation, parole and institutions; changes in crime control and treatment processes, the role of society. 48-54 hours lecture. CSU. (No prerequisite)

AJ 130 Death Investigation 3.0 Units
A course designed to prepare the law enforcement officer with the appropriate knowledge and techniques for handling homicide investigations. 48-54 hours lecture. CSU. (No prerequisite)

AJ 132 Introduction to Corrections 3.0 Units
A survey of the field of correctional science. Historical development, current concepts and practice; explanations of criminal behavior; functions and objectives of the criminal justice system concerned with institutional, probation, and parole processes as they modify the offender's behavior; survey of professional career opportunities in public and private institutions. 48-54 hours lecture. CSU. (No prerequisite)

AJ 133 Writing for Criminal Justice 3.0 Units
Techniques of communicating facts, information, and ideas effectively in a simple, clear and logical manner in the various types of criminal justice system reports: letters, memorandums, directives, and administrative reports with an emphasis on criminal justice terminology in note taking and report writing. 48-54 hours lecture. CSU. (No prerequisite)

AJ 135 Juvenile Law and Procedures 3.0 Units
Techniques of handling juvenile offenders and victims; prevention and repression of delinquency; diagnosis and referral; organization of community resources. Juvenile law and juvenile court procedures. 48-54 hours lecture. CSU. (No prerequisite)

AJ 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

AJ 140 Communication Skills for Interviewing and Interrogation 3.0 Units
The course will focus on the technical and legal aspects of interview and interrogation within the Administration of Justice system. It will provide the student with the communication skills required to elicit reliable and admissible information from witnesses and suspects. Constitutional and Legislative law will be emphasized. 48-54 hours lecture. CSU. (No prerequisite)

AJ 145 Introduction to Criminal Investigations 3.0 Units
The course explores the processes involved in investigation crimes against persons; crimes against property; sex crimes; cyber-crime; controlled substances and organized crime; bomb and illegal explosive crimes; and crimes against children. The course will examine various communication methods when interviewing victims or interrogating suspects and examine the Constitutional restrictions when conducting searches or seizures for evidence. 48-54 hours lecture. CSU. (No prerequisite)

AJ 148 Special Topics
See Special Topics listing (Variable units). CSU

AJ 149 Independent Study
See Independent Study listing (1-3 units). CSU

AJ 150 Introduction to Forensic Science 3.0 Units
This course introduces the role of forensics in the criminal justice system. The course includes: crime scene processes and analysis; interpretation of patterns for reconstruction; physical pattern evidence; fingerprint identification and patterns; questioned document examination; tool marks and firearms examination; biological evidence and DNA; arson and explosives evidence, and drug analysis. 48-54 hours lecture. CSU. (No prerequisite.)

AJ 201 Multicultural Issues
(formerly AJ74) in Public Safety 3.0 Units
A theoretical and conceptual overview of multicultural concepts and issues: an application of those concepts and issues to the four public safety disciplines (corrections, fire safety, hazardous materials, law enforcement); identification of problems related to our increasingly diverse population; examination of strategies to overcome those problems, particularly in relation to the maintenance of social order. 48-54 hours lecture. (No prerequisite)

AGRICULTURE and NATURAL RESOURCES

AGNR 50 Equine Health 3.0 Units
Students learn the basics of proper veterinary care of the horse, including what to do before the veterinarian is called. Course introduces the diseases and lameness associated with the musculoskeletal system, as well as diseases of the respiratory, digestive, neurological, and reproductive systems. Emphasis is on preventive maintenance and managerial practices needed to keep the equine athlete, broodmare or family horse in good health in the High Desert Region of California. 48-54 hours lecture. (No prerequisite) Grade option. This course may be taken four times.

AGNR 50A Introduction to Equine Health and Disease Prevention: When to Call the Vet 0.5 Unit

Introduction to the anatomy and physiology of the horse and the impact of these sometimes fragile systems can impact overall equine health. Students learn to identify the indicators of good health using a first-aid check list and warning signs of disease. Nine hours lecture. (No prerequisite) Grade option. This course may be taken four times.

AGNR 50B Equine Diseases, Toxicology and Parasites 0.5 Unit

Course emphasizes the early detection and prevention of these agents. Focus on West Nile Virus, Strangles, Rhinopneumonitis and other diseases prevalent in the High Desert. Students develop region-specific vaccination and worming regimens. Nine hours lecture. (No prerequisite) Grade option. This course may be taken four times.

AGNR 50C Colic and Proper Feeding Practices 0.5 Unit

Students learn the common environmental factors that may cause digestive health problems like colic and diarrhea. Emphasis is laced on a balanced diet and proper feeding practices. Nine hours lecture. (No prerequisite) Grade option. This course may be taken four times.

AGNR 50D Equine Lameness; Laminitis, Navicular and beyond 0.5 Unit

Students assess the pathogenesis of navicular Disease and Laminitis; describe common methods of treatment; evaluate the impact of these and other lameness on the athletic potential of the equine athlete. Techniques for diagnosis (radiography, ultrasound) and treatment (chiropractic, drugs) are explored. Nine hours lecture. (No prerequisite) Grade option. This course may be taken four times.

AGNR 50E Equine Reproductive Health 0.5 Unit

The unusual reproductive conformation of the mare and the stallion and breeding practices has produced an inordinately low level of reproductive efficiency in modern horse breeds. Course presents the appropriate use of recent management and technology innovations: progesterone therapy, increased day-length, ultrasonic imaging, artificial insemination, cooled semen and embryo transfer. Nine hours lecture. (No prerequisite) Grade option. This course may be taken four times.

AGNR 50F Equine Foaling and Neonatal Care 0.5 Unit

The successful foaling of a mare is fraught with problems from dystocia to assuring that the foal gets sufficient colostrum. Students develop a foaling checklist and guidelines on when to call for Veterinary assistance. Nine hours lecture. (No prerequisite) Grade option. This course may be taken four times.

AGNR 51 Veterinary Terminology and Technology 3.0 Units

An introduction to the terminology for drugs, disease and dissection in dogs, cats, horses, ruminants, swine and birds. Students identify the parts of a medical term and practice their pronunciation. Basic terminology and function of the skeletal, muscular, digestive, urinary, cardiovascular, respiratory, endocrine, reproductive and nervous systems. Overview of the available technology for animal testing and diagnostic evaluation. 48-54 hours lecture. (No prerequisite) This course may be taken three times.

AGNR 55 Animal Management Lab 1.0-3.0 Units

This course provides hands-on exposure to the management of large farm animals (livestock) and the experience needed to implement the theory learned in this department's animal and equine science classes. Special emphasis is placed on handling, preventative veterinary care, feeding, facility design, selection, evaluation, judging and preparation for sale. Provides a detailed analysis of various visual and physical methods of appraising beef, sheep, swine and horses for functional and economic value. 48-162 hours laboratory. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 60 Environmental Horticulture Laboratory 1.0-4.0 Units

Horticulture laboratory setting for horticulture students to practice the skills gained from experience and traditional lecture/laboratory classes. This setting will further prepare students for employment in the horticulture industry. 48-54 hours laboratory per unit, per term. (No prerequisite) This course may be taken four times.

AGNR 61 Natural Landscape Practices 4.0 Units

Introduction to the basics of landscape design; plant material selection; planting and care; composting; irrigation design and maintenance organic and natural methods; sol factors; landscape redesign and renovation; integrated pest management; creating a custom landscape. Emphasis is on the use of water-conserving and resource-efficient practices in establishing functional, attractive landscapes. 64-72 hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 61A Basics of Water-Efficient Landscape Design 0.5 Units

Introduction to the seven xeriscape principles (landscape planning and design, soil considerations, practical turf areas, plant material selection, irrigation design, use of mulches, and landscape maintenance. Additional emphasis on drip and water-conserving irrigation, with an overview of local and regional water resources issues. Students will learn the basic elements of landscape design and be introduced to the dynamics of water resource management. Eight - nine hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 61B Trees for the Suburban Forest: Selection, Planting, and Care 0.5 Units

Students will learn the elements required for the selection, planting, and care of fruit, shade, ornamental, and windbreak trees that are adapted to local climatic conditions and that meet particular landscaping objectives. Emphasis will be on choosing the right type of tree for the location, optimizing site selection, soil preparation and planting, efficient irrigation practices, establishing a home orchard, and tree health, maintenance and pruning. Eight - nine hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 61C Recycling the Natural Way: Essentials of Composting 0.5 Units

Learn how to make productive use of unwanted yard waste and other materials through the Master Composter Program. Topics include: benefits of composting; the biological process of composting; materials that can and cannot be composted; types of composting units and how to establish and manage them; vermiculture; using the finished product as a soil conditioner or mulch, using other solid waste such as straw and concrete in the landscape. Eight - nine hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 61D Designing Drip Irrigation and Other Water-Efficient Systems 0.5 Units

Students will learn to design, install, and maintain drip and other water-efficient landscape irrigation systems. Topics include: system layout; description of available irrigation hardware components and their use; converting existing systems to water-efficient; adapting an existing system to a redesigned landscape; effective use of timers and controllers based on seasonal water requirements; troubleshooting and repair. Eight - nine hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 61E Organic Methods for Gardening and Landscaping 0.5 Units

Introduction to the use of organic methods in cultivating vegetables, herbs, flowers, shrubs, and trees. Students will learn to evaluate basic soil characteristics and assess the need for soil amendments and fertilizers. Other topics include: assessing plant health; organic and natural soil amendments and fertilizers; selecting and sourcing native and climate-adapted plant materials; plant pests and natural methods for controlling them. Eight - nine hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 61F Outdoor Remodeling: Approaches to Landscape Conversion 0.5 Units

Learn to remodel a landscape to make it more resource efficient and attractive. Emphasis will be on redesigning and planning, water-saving approaches for lawn areas, low-maintenance alternatives to lawn areas, utilization of existing landscape elements, salvaging trees and shrubs by pruning and retraining and introduction of new landscape elements that are readily established. Eight - nine hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 61G Integrated Pest Management for the Landscape and Home 0.5 Units

Managing pests with an integrated approach using knowledge of their habits and life histories to determine the best method or combination of methods for controlling them. Students will learn about the biology of pest organisms (weeds, insects, plant diseases, rodents, and other pests), preventing the establishment of pests before they become a problem, evaluating the effects of pests on plant health, and methods of pest control, with emphasis on low-impact practices and safe handling of chemical treatment.. Eight - nine hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 61H Natural Landscapes: Creating A Custom Habitat 0.5 Units

Design a landscape that incorporates natural practices to create a custom habitat. Includes Habitat Gardening: plants that attract desirable wildlife such as birds and butterflies; edible landscapes; incorporating vegetables, herbs, and fruit trees; planting for seasonal color; allergy-free landscaping; creating outdoor living spaces; integrating hardscape elements such as decks, gazebos, and rockscapes into the design. Eight - nine hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 72 Geospatial Technology I 4.0 Units

This course examines the theory behind geographic information systems (GIS) and global positioning systems (GPS) and their application to spatial data. An interdisciplinary approach to GIS and its capability for analysis and decision making in diverse industries. Students will use ArcGIS9 software and GPS software on real world projects that find solutions to local problems using spatial data. 64-72 hours lecture. (No prerequisite) This course may be taken three times.

AGNR 73 Water Resource Management 3.0 Units

This class is a complete overview of water resource management in the West Mojave Desert and makes appropriate linkages to the critical nature of water management around the world. Local water management leaders present guest lectures on the economic, political, social, and environmental pressures that must be balanced in providing sustainable water supplies. The scientific principles are presented that must underlie sound water management decisions. Cutting-edge technologies like Geospatial Analysis are used to present the study of groundwater, local watershed health, soil erosion, water quality and water distribution issues. 48-54 hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 74 Conservation and Sustainability Practices 6.0 Units

This course introduces students to the exciting and rapidly expanding practice of the conservation and sustainable use of our natural resources. Students use case studies and high-tech tools to learn how we can live comfortably while ensuring that we sustain the environment for future generations. Students explore the social, economic, environmental, technological, scientific, conservation practices and career fields that support this new frontier in societal development. 96-108 hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 74A Sustainable Community Development 1.0 Unit

Students learn to plan and implement sustainable development practices; development that meets the needs of the present generation with compromising the ability of future generations to meeting their own needs. It is also often described as development that considers multiple, sometimes competing values grouped into three general categories; environmental, social and economic. Extensive use is made of case studies and practical on-site experiences. Class may be taught in the Mojave Desert, Costa Rica, Namibia, New Zealand, etc. 16-18 hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 74B Biodiversity Management and Conservation Technology 1.0 Unit

The reduction of species diversity is a major indicator of the health of a complete ecosystem. This class explores the science, tools and practice of conserving species diversity. Students learn to implement the exciting tools of Geographic Information Systems (GIS), Global Positioning Systems (GPS), Satellite Imaging and Database Management, along with an understanding of the unlimited career opportunities in these fields. An example case study is on the viability of the Lucerne Valley Big Horn Sheep population. Class may be taught in Mojave Desert, Costa Rica, Namibia, New Zealand, etc. 16-18 hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 74C Water and Soil Conservation 1.0 Unit

Students discover the tenuous nature of many of the world's water supplies. Tools like GIS are used to study watershed health. The fantastic chemistry of water and methods of water quality testing are presented. Students study the relationships between soil and water, soil mapping, soil analysis and soil erosion using real-world examples. Class may be taught in the Mojave Desert, Costa Rica, Namibia, New Zealand, etc. 16-18 hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 74D Ecological Restoration 1.0 Unit

Students learn to design an ecological restoration plan that effectively balances environmental mitigation with local community social and economic needs. The methodologies appropriate to a particular situation are presented. Topics include: native seed banking, Mycorrhizal relationships, seed stratification and scarification, nutrient requirements, water requirements, transplanting protocols, watershed restoration, soil evaluation and rehabilitation. Class may be taught in the Mojave Desert, Costa Rica, Namibia, New Zealand, etc. 16-18 hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 74E Sustainable Agriculture Practices 1.0 Unit
Tremendous progress has been made towards farming with nature and restoring ranches to be part of the natural ecosystem. This "farming with the wild" is not only producing more food but enhancing the environment. Students study sustainable practices like rotational grazing, organic farming, hedgerows and natural pollination in the United States and overseas. Class may be taught in the Mojave Desert, Costa Rica, Namibia, New Zealand, etc. 16-18 hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 74F Sustainable Building and Energy Practices 1.0 Unit
The technology to reduce our reliance on fossil fuels by producing energy alternately and building in a sustainable manner is very well represented in the Western Mojave Desert. Students study the latest technology to produce energy from the sun, wind, animal waster and plant matter. The "smart" building practices of straw-bale, Super Adobe, Cob, grey-water and radiant heating are explored. 16-18 hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 75 Environmental Conservation Technology Laboratory 2.0-4.0 Units
Students gain hands-on experience with the concepts and technology that support conservation in the Mojave Desert. Students collaborate with natural resource managers in the design and implementation of conservation projects. Projects include: desert restoration, water conservation, GPS/GIS, air quality management, alternative energy, green building and environmental horticulture. 96-216 hours laboratory, depending on unit value, per term. This course may be taken four times.

AGNR 76 Advanced Irrigation Technology 3.0 Units
Students will focus on advanced irrigation technology and will be introduced to state of the art software, irrigation equipment, water management techniques and water quality technology that supports better management of our limited water supply. 48-54 hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AGNR 80 Master Gardener 2.0 Units
This course is intended for homeowners and professionals who wish to increase their proficiency in high desert gardening. Focus on: plant selection, drip irrigation, fruit, vegetables, roses, fertilizers, mulches, soil amendments, composting, herbaceous plants, landscape design, pruning, maintenance, weed control, cactus, succulents, turf-grass and water features. 32-26 hours lecture. (No prerequisite. Pass/No Pass.) This course may be taken four times.

AGNR 100 General Animal Science 3.0 Units
Discussion of breeds, types of enterprises, nutrition, reproduction and management of beef cattle, dairy cattle, sheep, swine, rabbits, poultry, and goats. 48-54 hours lecture. One Saturday field trip required. CSU, UC. Offered Fall. (No prerequisite)

AGNR 101 Animal Nutrition 3.0 Units
This course covers modern nutritional techniques in large animal production and management. Anatomy of large animal digestive systems will be discussed along with feed composition and meeting large animal dietary requirements for maximum performance and growth. Students will formulate rations for a variety of livestock. 48-54 hours lecture. CSU. (No prerequisite. Grade Option). This course may be taken three times.

AGNR 102 Equine Science 4.0 Units
An overview of the equine industry encompassing the role of the equine species throughout history. Breed selection, development, nutrition, diseases, preventative health, reproductive management, basic horsemanship, and management practices. Emphasis placed on the practices, breeds and career opportunities that are appropriate to the California horse industry. 64-72 hours lecture. (No prerequisite) This course may be taken two times. CSU, UC.

AGNR 120 Pest Management in Environmental Horticulture 3.0 Units
Students will learn how to employ the principles and concepts of managing insects, diseases and weeds of the landscape and nursery environment, and their identification and control. To include concept of Integrated Pest Management, laws, and regulations. Effective use of pesticides and herbicides will be emphasized. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite.) This course may be taken four times.

AGNR 121 Introduction to Environmental Horticulture 3.0 Units
Introduction to environmental horticulture with an emphasis on nursery operations, landscaping, turf management and ecological restoration. Topics include basic plant structure, cultural practices, propagation, landscape structures and layout, seed management, soil analysis, pest management, plant identification, turf grass care and survey of career opportunities. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite) This course may be taken three times.

AGNR 122 Plant Propagation and Greenhouse Production 3.0 Units
Students will explore the challenges of propagation and production of native and drought tolerant plants that are adapted to the extreme climate of the High Desert using techniques commonly used in a professional nursery/greenhouse environment. Topics include sexual and asexual propagation techniques including: seeds, cuttings, layering, division, bulbs, grafting and budding. The greenhouse production techniques for transplanting; fertilizing; pest, humidity, water and temperature control are studied. Nursery operations such as: growing structures; site layout; preparation of planting media; use and maintenance of tools and equipment; and regulations pertaining to plant production are emphasized. This class is highly recommended for all landscape, environmental horticulture and ecological restoration certificate candidates. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite) This course may be taken four times.

AGNR 123 Introduction to Plant Science 3.0 Units
This course provides an introduction to plant science with topics in plant structure and function and the environmental factors involved in plant growth and development. Students learn: plant physiology; plant reproduction and propagation; effects of soil, water, and climate; use of plants to meet human needs; sustainable horticultural practices; integrated pest management; the role of new technologies in contemporary plant science. Application to Mojave Desert issues and to careers in Horticulture, Agriculture, Natural Resource Management and Restoration Ecology are emphasized. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Grade option.) This course may be taken two times.

AGNR 129 Water Efficient Landscaping 3.0 Units
This is a combination course covering the seven xeriscape principles: landscape planning and design; limited turf areas; efficient landscape irrigation; soil improvement and mulching; use of low water plants; disease, weed, and insect control; and appropriate landscape maintenance. 48-54 hours lecture. CSU (No prerequisite. Credit/No Credit) This course may be taken two times.

AGNR 131 Soil Science 3.0 Units
Exploration of the physical, chemical, and biological characteristics of soils. Focus on soil and plant relationships, principles of soil formation, fertilizers and soil management, salinity, PH, erosion management, and non-agricultural uses. Emphasis is placed on soil as a natural resource and on its conservation in a desert ecosystem. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite) This course may be taken three times.

AGNR 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

AGNR 140 Plant Materials and Usage I 3.0 Units
Identification, growth habits and cultural requirements for plants common to the California landscape. Emphasis is placed on plants that have adapted to the climate of the high desert and ones that are drought tolerant. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite.)

AGNR 141 Native Plant Materials and Usage 3.0 Units
This class teaches the identification, growth habits, propagation, seed collecting techniques and ecology of California native plants. The use of native plants in restoration, sustainable agriculture, fire ecology and land development in the Western Mojave Desert is emphasized. 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite.) This course may be taken three times.

AGNR 148 Special Topics
See Special Topics listing (Variable units). CSU

AGNR 149 Independent Study
See Independent Study listing (1-3 units). CSU

AGNR 150 Landscape Design 3.0 Units
Fundamentals and history of landscape design. Studies of color, texture, form and use of landscape material. Consideration will also be given to proper site layout with regard to existing elevations and conservation management. Emphasis will be on selection and placement of plant material, walks, patios, decks, and other structures for landscape use. Students design and draft actual landscape projects. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite.) This course may be taken three times.

AGNR 151 Landscape Construction 3.0 Units
Techniques used in constructing wood, concrete, and masonry projects common in the landscape industry. Labs include using wood products for structures, decks, gazebos and fences. Estimating procedures, planning, mixing and forming for concrete walkways are identified. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

AGNR 152 Introduction to Irrigation 3.0 Units
Prepares students to design, install and maintain a water efficient landscape irrigation system. Topics include water supply, basic hydraulics, component identification and terminology, system layout, pipe sizing; types of heads, valves, controllers. Students will gain appreciation for water conservation and quality issues. Students will also learn to troubleshoot irrigation design and electrical problems. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite) This course may be taken three times.

AGNR 153 Landscape Maintenance Fundamentals 2.0 Units
Maintenance of trees, shrubs and ground covers, cultural requirements, pruning, fertilizing, and irrigation. Repair of irrigation systems and equipment. 16-18 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

AGNR 154 Landscape and Nursery Management 3.0 Units
A combination course covering the basics of landscaping and nursery management. 48-54 hours lecture. CSU.

AGNR 160 Beginning Floral Design 3.0 Units
Introduction to the theory of floral design, including principles and elements of design, color theory, identification of plant materials and preparation and care of plant material. Emphasis is placed on "hands on" floral designs, boutonnieres and corsages. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite) This course may be taken four times.

AGNR 161 Advanced Floral Design 3.0 Units
Contemporary design theory emphasizing creativity, self expression, and professional design situations. Students learn the skills and techniques of the floral industry, including wedding, sympathy, party, holiday, high style and advanced floral designs and displays. Other techniques include working with the customers, consultations, pricing and the use of computers. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite) This course may be taken four times.

AGNR 170 Environmental Science and Sustainability 4.0 Units
Sustainable use and conservation of the worlds environment and natural resources, including soil, water, forest, mineral, plant, and animal life, with particular attention to California conditions. Sustainability principles, scientific concepts, modern problems in resource use, global environmental issues and the citizen's role in conservation. The biodiverse Mojave Desert serves as an exciting "living lab" to study this emerging field. 64-72 hours lecture. CSU (No prerequisite) This course may be taken three times.

AGNR 171 Introduction to Geographic Information Science 3.0 Units
Focus on electronic methods of cartography following a presentation of mapping concepts and methods. This course covers the history, structure and uses of the basic operations of Geographic Information Systems (GIS), including hardware and software requirements. Examination of the role of other spatial technologies: aerial photography, remote sensing, and Global Positioning Systems (GPS). 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite) This course may be taken three times.

AGNR 175 Agriculture, Environment, and Society 3.0 Units
This course explores the sociology of agriculture presented through an examination of relationships between societies and their environments, economics, and agriculture. Emphasis on the analysis of agriculture's use of technology and the corresponding impact on the environment, economy, society and sustainable development. 48-54 hours lecture. CSU (No prerequisite) This course may be taken two times.

ALLIED HEALTH

ALDH 50 Paramedic Anatomy and Physiology 4.0 Units
This is the introductory course of the Paramedic program. This course includes basic anatomy, physiology, and medical terminology for the paramedic. 64-72 hours lecture. (Prerequisite: Application and acceptance into the Paramedic Academy and ALDH 71 with a grade of 'B' or better.) This course may be taken two times.

ALDH 51 Paramedic Introduction to EMS 1.5 Units
This course covers the roles and responsibilities of the EMT-P. It also includes the Emergency Medical Services System and EMS communication as it relates to the EMT-P. 24-27 hours lecture. Offered Summer/Winter. (Prerequisite: Application and acceptance into the Paramedic Program.) This course may be taken two times.

ALDH 52 Paramedic Cardiology 4.0 Units
This course covers the cardiovascular system and includes anatomy and physiology of the heart, and application and interpretation of EKG's. 48-54 hours lecture and 24-27 hours laboratory. Offered Fall. ((Prerequisite: Application and acceptance into the Paramedic Program and successful completion of ALDH 50 and ALDH 51 with a 'B' grade or better.) This course may be taken three times.

ALDH 53 Paramedic Pharmacology 3.5 Units
This course will cover the general principles of pharmacology including calculations and administration of various medications. 48-54 hours lecture and 24-27 hours laboratory. Offered Fall. (Prerequisite: Application and acceptance into the Paramedic Program and successful completion of ALDH 50 and ALDH 51 with a grade of B or better.) This course may be taken two times.

ALDH 54 Paramedic Advanced Cardiac Life Support 1.0 Unit
This course will provide a review of basic cardiology, pharmacology, and EKG interpretation used in Advanced Cardiac Life Support. 8-9 hours lecture and 24-27 hours laboratory. Offered Fall. (Prerequisite: ALDH 53 with a grade of 'B' or better.) This course may be taken three times.

ALDH 55 Emergency Medical Services 10.0 Units
This course covers the theoretical and scientific background of emergency medical care in the pre-hospital setting to include patient assessment, trauma and medical emergencies, and skills practice in the lab. 128-144 hours lecture and 96-108 hours laboratory. Offered Fall. (Prerequisite: Application and acceptance into the Paramedic Program is required before registering for this course and successful completion of ALDH 50, 51, 52, 53 and 54 with a grade of B or better.) This course may be taken two times.

ALDH 56 Paramedic Clinical 3.0 Units
This course is the first part of the student's internship as part of the Paramedic program. This includes 176 hours at an acute care facility performing Inland Counties Emergency Medical Agency skills. 144-162 hours laboratory. Offered Spring. (No prerequisite) This course may be taken two times.

ALDH 57 Paramedic Field Internship 11.0 Units
This course is the field internship portion of the Paramedic program. Students will spend 600 hours in the field with a transport service performing Emergency Medical Technician skills. 528-594 hours laboratory. Offered Spring. (No prerequisite) This course may be taken two times.

ALDH 60 Nursing Assistant 4.5 Units
Enables students to become familiar with basic principles of nursing, including procedures and techniques. Clinical experience is provided in extended care facilities. Students will learn to provide and meet the patient's basic physical and psychological needs and promote a spirit of restoration and independence in a safe, efficient, and competent manner. State approved precertification program. Does not guarantee certification. Must achieve a grade of C or better to take state certification examination. 102 hours lecture and 102 hours laboratory. Offered Fall, Spring. (Prerequisite: Documented clearance for any crime more serious than a minor traffic ticket. Fingerprinting will be required. Health exam prior to clinical rotation. (Corequisites: Completion of Healthcare Provider CPR program with current card or other Healthcare Provider CPR program.)

ALDH 61 Home Health Aide 1.5 Units
Enable students to become familiar with basic principles of nursing care in a home style setting. Clinical experience is provided in residential care facilities. Students will learn to provide and meet the patient's basic physical and psychological needs and to promote a spirit of rehabilitation and independence in a safe, efficient and competent manner. State approved certification course. A grade of C or better must be earned to receive state certification. 20 hours lecture and 24 hours laboratory. (Prerequisites: Must have current and active California CNA certificate. Students who have completed Victor Valley ALDH 60 Nursing Assistant course this semester, but have not completed the state exam may enter the course. State Home Health Aide certification will be contingent upon passing the State CNA Certification exam. Corequisite: Current Healthcare Provider CPR card or concurrent enrollment in ALDH 91 or other acceptable Healthcare Provider CPR course.)

ALDH 62 Acute Care CNA 4.0 Units
This course will allow the Certified Nursing Assistant to expand upon basic nursing practices to include those specific for the acute care setting. Clinical experience is provided in acute care facilities. Students will learn nursing practice skills related to the medical-surgical patient and will have an understanding of physical and psychosocial changes seen in the acute setting. Must achieve a grade of C or better to receive Victor Valley College Certification.51 hours lecture and 51 hours laboratory. (Prerequisites: Must have a current and active State of California Certificate for Nursing Assistant (CNA). Students that have completed Victor Valley ALDH 60 Nursing Assistant course this semester, but have not completed the state exam may enter the program. Certification of completion by Victor Valley College will be contingent upon the student also passing the State CNA Certification exam. Corequisite: Current Healthcare Provider CPR card.)

ALDH 70 Emergency Medical Responder 2.5 Units
This course provides training in basic emergency care skills, including patient assessment, CPR, automated external defibrillation, use of definitive airway adjuncts, splinting, and control of bleeding. 32-36 hours lecture and 24-27 hours laboratory. (No prerequisite.) This course may be taken three times.

ALDH 70B Emergency Medical Responder - Refresher 1.5 Units
This course provides refresher training for re-certifying the Emergency First Responder. Training includes basic emergency care skills, including patient assessment, CPR, automated external defibrillation, use of definitive airway adjuncts, splinting, and control of bleeding. 16-18 hours lecture and 24-27 hours laboratory. (No prerequisite. Grade Option.) This course may be repeated as required.

ALDH 71 Emergency Medical Technician I 9.0 Units
This course provides training in basic emergency care skills, including CPR, automated external defibrillation, use of definitive airway adjuncts, and assisting patients with certain medications. Approved by the Inland Counties Emergency Medical Agency; All students must be eighteen years of age and have CPR (Cardio-Pulmonary Resuscitation) training equivalent to the American Heart Association Healthcare Provider Level (Title 22, Div. 9, Ch. 2, Sect. 100066 b2 California Code of Regulations) prior to the first day of class due to current clinical/field internship affiliation agreements.
120-135 hours lecture and 72-81 hours laboratory. Offered Fall, Spring, Summer. (Prerequisite: 18 years of age before first day of class and a minimum grade of 'B' in CPR equivalent to 2005 AHA BLS for Healthcare providers. State mandated.) This course may be taken two times.

ALDH 72 Emergency Medical Technician (Ambulance) Refresher Course 1.0 Unit
Thirty hour refresher course required for renewal of Emergency Medical Technician I Certificate. New Certificate of Completion awarded. Course approved by the Inland County Emergency Medical Agency. Eight hours lecture and 24 hours laboratory. Offered Fall, Spring. (No prerequisite) This course may be taken four times.

ALDH 76 Athletic Training III 2.0-6.0 Units
In this course, students will provide the pre-participation, on-site first aid and event maintenance for fall/winter/spring sports programs at VVC (baseball, basketball, football, golf, soccer, softball, tennis, volleyball and wrestling.) Experience will include but is not limited to, prophylactic taping and padding, immediate first aid, monitoring vital signs, completion of accident forms, proper use of universal biohazard precautions, supervision of safe playing conditions and coaching techniques, recognition of medical emergencies, assisting other medical personnel as needed, game preparation and pre-participation medical screenings. 108-324 hours laboratory. See cross listing for PE 76. (Prerequisite: ALDH 141 or PE 141 Athletic Training I, or equivalent.) This course may be taken four times.

ALDH 77 Athletic Training IV 2.0-6.0 Units
In this course, students will provide the care to athletes involved in fall/winter/spring sports programs at VVC (baseball, basketball, football, golf, soccer, softball, tennis, volleyball and wrestling.) Experience will include but is not limited to development and implementation of rehabilitation protocols. Use of modalities including, whirlpool, ultrasound, ice, Emergency Medical Services, hydrocolator, Range of Motion exercises, joint mobilization, strengthening exercises (isokinetic, isotonic, isometric), cardiovascular conditioning and proprioceptive exercises. See cross listing for PE 77. 108-324 hours laboratory. Offered Fall. (Prerequisite: ALDH 141 or PE 141 Athletic Training I, or equivalent.) This course may be taken four times.

ALDH 80 Pharmacology 3.0 Units
Current concepts of pharmacology, its relationship to patient care, and legal and ethical considerations are covered. Basic mechanisms of drug action, administration, toxicity, side effects, and dosages are also included. 48-54 hours lecture. Offered Fall. (No prerequisite) This course may be taken two times.

ALDH 81 Medical Insurance 3.0 Units
Intensive instruction and drill in completing medical insurance forms for the private sector, industrial Medi-Care, Medi-Cal, Medi-Care/Medi-Cal patient. Basic skills in billing, collecting, banking, and preparation of payroll. 48-54 hours lecture. Offered Fall, Spring. (No prerequisite)

ALDH 82 Medical Office Procedures 3.0 Units
Provide practice in medical office procedures, medical correspondence, case histories, insurance forms, and reports. Study of telephone techniques, medical record keeping, and filing. Verbal communication with patients, other offices and facilities. Preparation and assistance with common back office procedures. 48-54 hours lecture. Offered Fall. (No prerequisite)

ALDH 82C Medical Office Procedures - Clinical 5.0 Units
This course is designed to provide the externship component of Allied Health 86, Medical Office Procedures. The individual students will complete 270 hours of practical clinical experience. This will be performed in rotation sequence in the offices and clinics of qualified physicians located throughout the High Desert. 240-270 hours laboratory. Offered Spring. (No prerequisite)

ALDH 82D Medical Assisting Exam Review 3.0 Units
This class will prepare the student for the medical assisting certification exam. The student will learn strategies to help identify strengths and weaknesses and develop a realistic study plan. 48-54 hours lecture. (Prerequisite: Successful completion of ALDH 82 or equivalent and ALDH 82C or equivalent.) This course may be taken four times.

ALDH 83 Basic Arrhythmia 3.0 Units
A review of the general anatomy and physiology of the heart and coronary system, with complications associated with acute myocardial infarction with strong electrophysiological/arrhythmogenic component. Upon successful completion, the student will receive a certificate in Basic Electrocardiography and Arrhythmia Interpretation. (This course has been approved by the Board of Registered Nursing for Continuing Education credit.) 48-54 hours lecture. Offered Fall. (No prerequisite) This course may be taken two times.

ALDH 84 Intravenous Therapy 2.0 Units
Approved by the Board of Vocational Nursing and the Board of Registered Nursing for Continuing Education. Emphasis placed on providing factual knowledge base, patient-centered psychological aspects, venipuncture techniques and materials. Legal aspects, especially as they relate to LVN's and RN's, are included. Thirty hours of theory/laboratory and six hours of clinical practice in IV therapy. Offered Spring. (No prerequisite)

ALDH 90A Certified Phlebotomy Technician 1A 5.0 Units
Certified Phlebotomy Technician 1A prepares a student with the education, training, experience, and examination requirements as specified by the California Department of Health Services, to perform skin punctures or venipunctures in a hospital, clinical lab or doctor's office. A minimum of 48-54 hours of didactic, 48-54 hours laboratory, and 48-54 hours of practical clinical instruction will be required. (Prerequisite: High School graduate or GED, or documentation of equivalent education.) This course may be taken four times.

ALDH 90B Certified Phlebotomy Technician 1B 3.0 Units
Certified Phlebotomy Technician 1B is designed for a student who has less than 1040 hours of job experience and has completed 50 successful venipunctures and 10 successful skin punctures within the past 5 years. This course will prepare the student for the State examination by covering 24-27 hours of basic didactic material and 24-27 hours of advanced didactic material in Phlebotomy techniques. This course does not require the student to attend a clinical component. 40 hours lecture. (Prerequisite: High School graduate or GED or documentation of equivalent education. Employed within the past 5 years as a Phlebotomist with less than 1040 hours of experience. Completion of 50 successful venipunctures and 10 successful skin punctures.) This course may be taken four times.

ALDH 90C Certified Phlebotomy Technician 1C 1.5 Unit
Certified Phlebotomy Technician 1C is designed for a student who has 1040 hours or greater of on the job experience and who has completed 50 successful venipunctures and 10 successful skin punctures within the past 5 years. This course will prepare the student for the State examination by covering 24-27 hours of advanced didactic material in Phlebotomy techniques, blood borne pathogens, anti-coagulation theory, specimen collection and transportation. This course does not require the student to attend a clinical component. 20 hours lecture. (Prerequisite: High School graduate or GED or documentation of equivalent education. Employed within the past 5 years as a Phlebotomist with 1040 hours or greater of on the job experience. Completion of 50 successful venipunctures and 10 successful skin punctures.) This course may be taken four times.

ALDH 91 Basic CPR (Cardiopulmonary Resuscitation) 0.5 Unit
Emergency first aid procedure that consists of recognizing respiratory and cardiac arrest and starting the proper application of cardiopulmonary resuscitation to maintain life until advanced life support is available. Upon successful completion of the course, the student will receive a Basic CPR Certificate from the American Heart Association. Two hours lecture and ten hours laboratory. Offered Fall, Spring, Summer. (No prerequisite) This course may be taken four times.

ALDH 125 Medical Aspects of Drugs and Alcohol 3.0 Units
This course will provide an in-depth study of the physiological effects and medical consequences of drug and alcohol use and abuse, including the effects on the central nervous system and behavior. The pharmacological aspects of drug and alcohol use will be presented including metabolism of various drugs, the meaning and implication of "half-life," tolerance, dependence, addiction process, and withdrawal. Categories of substances covered will include major and minor stimulants, alcohol, depressants, psychotropic drugs, opiates, marijuana, hallucinogens, and other prescription and over-the-counter drugs. 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

ALDH 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

ALDH 139 Medical Terminology 3.0 Units
This course describes the body's anatomical systems with stress placed on medical terms, their use, spelling, and pronunciation. The use of these terms is defined in regard to anatomy, physiology, treatment, and surgery. 48-54 hours lecture. CSU. (No prerequisite)

ALDH 141 Athletic Training I 3.0 Units
Introduction to principles of athletic training, including prevention, evaluation, treatment, and rehabilitation of common athletic injuries. 40-45 hours lecture and 24-27 hours laboratory. CSU. See cross listing for PE 141. (No prerequisite. Interest and/or experience in athletics and sports recommended)

ALDH 142 Athletic Training II 3.0 Units
This course will build on the students basic knowledge of human anatomy and athletic injuries. Topics will include emergency procedures, current health concerns of the athlete, protective devices, advanced taping techniques and injury management. See cross listing for PE 142. 48-54 hours lecture and 16-18 hours laboratory. CSU. (Prerequisite: ALDH 141 or PE 141 Athletic Training I, or equivalent.)

ALDH 148 Special Topics
See Special Topics listing (Variable units). CSU

ALDH 149 Independent Study (formerly AH49)
See Independent Study listing (1-3 units). CSU

ANATOMY

See Biology.

ANTHROPOLOGY

ANTH 101 Introduction to Physical
(CAN ANTH 2) Anthropology 3.0 Units
Biological anthropology explores the biological development and adaptations of humans in relation to their different natural environments through the biological approach. This course provides information on how and why human populations vary within and between themselves; how and why humans have changed biologically and behaviorally through time; physical and behavioral comparisons between human and non-human primates; and biological and behavioral/technological development from the earliest to modern humans. 48-54 hours lecture. CSU, UC. Offered Fall, Spring, Summer, Winter. (No prerequisite. Grade Option.) This course may be taken two times.

ANTH 101L Physical Anthropology
Laboratory 1.0 Unit
Coordinated with the lecture, this optional lab provides hands-on experience in human genetics, variation, and evolution; comparisons of non-human primate behavior; knowledge of the human skeleton and forensic identification methods. 48-54 hours lecture. CSU, UC. Offered Fall, Spring, Summer, Winter. (Corequisite ANTH 101. Grade Option) This course may be taken two times.

ANTH 102 Introduction to Cultural
Anthropology 3.0 Units
Cultural anthropology explores the social aspect of being human, in context with the multicultural approach. This course provides comparisons of all aspects of culture such as societal organization, economy, marriage and family, language development, gender issues, religion, and traditions and rituals. The development and evolution of cultural groups is discussed in relation to how several of these groups successfully adapt to particular environments. Drawing from anthropology and other social sciences, the history and development of modern World System and its effect on culture groups worldwide is outlined. 48-54 hours lecture. CSU, UC. Offered Fall, Spring, Summer, Winter. (No prerequisite. Grade Option) This course may be taken two times.

ANTH 103 Introduction to Archaeology 3.0 Units
Archaeology is the study of human groups in the context of their historic and prehistoric past. Through excavation of archaeology sites and laboratory analysis, archaeologists investigate and reconstruct the time frame, the life activities, and technological changes of ancient cultures. This course provides information on the history and development of archaeology, the archaeological methods used to excavate sites, how archaeologists relate the artifacts and other remains found on the sites to human behavior, how the sites within a region relate to each other and the natural surroundings, and the theoretical framework that helps to explain the behavioral and technological changes through time. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite. Grade Option) This course may be taken two times.

ANTH 103F Archaeology Field Class
(formerly ANTH 104) 3.0 Units
This course provides the student with hands-on experience in the excavation and investigation of an archaeology site and the materials contained in archaeology sites, the archaeological methods used to excavate sites, and how archaeologists relate the artifacts and other remains found on the sites to human behavior. 32-36 hours lecture and 48-54 hours laboratory. CSU. Offered Spring. (No prerequisite. Grade Option.) This course may be taken three times.

ANTH 103L Archaeology Lab
(formerly ANTH 54L) 3.0 Units
This course is designed as a laboratory class that compliments the Archaeology Field Course. The class introduces the students to laboratory work in archaeology, providing hands-on experience. Students learn to process the materials collected from the field class archaeology site, from cleaning and identification to their analysis. 16-18 hours lecture and 96-108 hours laboratory. Offered Fall. (No prerequisite. Grade Option.) This course may be taken four times.

ANTH 106 Introduction to Linguistic
Anthropology 3.0 Units
This course examines human language systems and their significance in social context. Topics that will be covered include: the origins and evolution of language; nonhuman primate communication systems; language classification; language structure; semantic systems; the social and cultural function of language; language acquisition; language change and the reconstruction of language at earlier stages. 48-54 hours lecture. CSU (No prerequisite. Grade Option.)

ANTH 107 Introduction to Forensic Anthropology
and Archaeology
(formerly ANTH 53) 3.0 Units
This course is designed to introduce the student to the specialty fields of forensic anthropology and forensic archaeology. The student will become familiar with archaeological field methods and many of the basic techniques used by forensic anthropologists. 32-36 hours lecture and 24-27 hours laboratory. (No prerequisite. Grade Option.) This course may be taken two times.

ANTH 128 Special Topics
See Special Topics listing (Variable units). CSU, UC

ANTH 151 World Dance 2.0 Units
This course is designed to introduce students to the elements of dances and dance techniques from specific regional areas, cultures, or ethnic groups. This introduction will include the geographic, historic, social and aesthetic factors that have shaped the development and function of such movement. Dances from at least three culture areas will be used as examples during a semester, and will vary from semester to semester. See cross listing for PE 151. 16-18 hours lecture and 48-54 hours laboratory. CSU, UC (No prerequisite) This course may be taken four times.

ART AND DESIGN

ART 51 Macromedia Flash Application Design 3.0 Units
This class introduces web application design and development to students with no prior programming experience. Students will be instructed and practice creating media rich web applications. Instruction will cover using screens, built in component and behaviors. The course will introduce ActionScript programming. At the end of the course students will be able to design and construct Flash applications This class is the second class in a three-part series. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

ART 101 Survey of Art History
(CAN ART 2) 3.0 Units
An historical survey of significant art from prehistoric times through the fourteenth century. 48-54 hours lecture. CSU, UC. Offered Fall. (No prerequisite) (ART 101 + ART 102 = CAN ART SEQ A)

ART 102 Survey of Art History
(CAN ART 4) 3.0 Units
An historical survey of significant art from the Renaissance through modern times. 48-54 hours lecture. CSU, UC. Offered Spring. (No prerequisite) (ART 101 + ART 102 = CAN ART SEQ A)

ART 103 The Art of American Cinema 3.0 Units
This class traces the development of cinema in America from silent to contemporary films. Our study will address the evolution of moving images as an expression of art and meaning. 48-54 hours lecture. CSU (No prerequisite.) This course may be taken four times.

ART 104 Film As An Art Form 3.0 Units
Film as a form of art and its construction as a communicative, expression of global culture, politics, literature and gender will be studied. Important films will be viewed that address these topics. Students will learn to be more critical viewers of media and its presentation of world culture. 48-54 hours lecture. CSU, UC. (No prerequisite)

ART 105 Introduction to Art 3.0 Units
This course is a general introduction to the visual arts, its nature, vocabulary, media, and history. The course examines the historical and contemporary value of art to both the individual and society. Consideration will also be given to a study of the organization and component parts of the visual art and the various media used in the making of art. 48-54 hours lecture. CSU, UC. Offered Fall and alternate summers. (No prerequisite)

ART 106 Art Concepts 3.0 Units
This illustrated lecture course will introduce students to the practice, theory and history of art. Art's impact upon our contemporary society as well as its reflection of history and meaning will be investigated. 48-54 hours lecture. CSU, UC. Offered Spring and alternate summers. (No prerequisite. Grade Option.)

ART 107 The Art and Life of Greece 3.0 Units
This is an illustrated lecture course focusing on art of the ancient Greek world from c. 1100 BCE to the 1st Century. Emphasis is placed upon analysis of the various styles of Greek art from the formative period of Hellenism. The art works are studied and analyzed within the cultural/historical context of the Greek world including mythology, philosophy, and social structure as these relate to the development of Greek art. 48-54 hours lecture. CSU, UC (UC credit pending). Offered alternate semesters. (No prerequisite.) This course may be taken two times.

ART 108 The Art and Life of Italy 3.0 Units
This is an illustrated lecture course focusing on the arts of Ancient Rome and its influence upon the development of the Western art world. This study focuses on the role of the Etruscans in the development of the early arts of the Roman Empire including the changes brought by the influence of Christianity with a look at the later development of the arts of Italy. 48-54 hours lecture. CSU, UC. Offered alternate semesters. (No prerequisite.) This course may be taken two times.

ART 109 Survey of African American Art 3.0 Units
This course will survey the arts of the African peoples in diaspora from traditional African arts to contemporary times. Focus will be on identification of artists, art styles within their historical, cultural, political framework and exploration of aesthetic preference. 48-54 hours lecture. CSU. (No prerequisite. Grade Option.) This course may be taken two times.

ART 112 Design I 3.0 Units
The focus of this course will be on the basics of design utilizing black and white graphic elements. Emphasis will be placed on the principles and practices of design involved in the production of art forms. Lectures will demonstrate examples of design in classic and contemporary works of art. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Fall, Spring and alternate summers. (No prerequisite) This course may be taken four times.

ART 113 Design II 3.0 Units
A continuation of Art 112 utilizing the same principles of design expanded to color and three- dimension. Critiques and lectures will focus student's evaluative skills in applying comprehension of art history to contemporary concepts of design. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Spring. (No prerequisite)

ART 115 Water-Based Media 3.0 Units
An introduction to basic water-based painting media and the methods used for applying pigment to paper. Color theory, design principles and a comprehensive history of the medium will be included. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite) This course may be taken two times.

ART 120 Acrylic Painting I 3.0 Units
(CAN ART 10)
This course is an introduction to acrylic painting methods and techniques with an emphasis on composition, color, and application of general design principles. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Fall. (No prerequisite. Recommended preparation: ART 112 or ART 113 or ART 125.) This course may be taken two times.

ART 121 Acrylic Painting II 3.0 Units
This is an intermediate course in acrylic painting methods and techniques with continuing study of the theory and practice of painting. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Spring. (No prerequisite. Recommended preparation: ART 120.) This course may be taken two times.

ART 122 Life Drawing I 3.0 Units
(CAN ART 24)
A beginning life drawing course emphasizing the study and analysis of the human form using basic art materials and fundamental drawing concepts. 32-36 hours lecture and 48-54 hours laboratory. CSU,UC. Offered Fall, Spring. (No prerequisite. ART 125 or ART 126 recommended.) This course may be taken four times.

ART 123 Life Drawing II 3.0 Units
An intermediate life drawing course emphasizing the continued study and analysis of the human form using drawing of the human figure from life. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (No prerequisite. Recommended preparation: ART 125 or ART 126, or ART 122.) This course may be taken two times.

ART 124 Anatomy for Life Drawing 3.0 Units
Critical dissection of anatomical and physiological studies incorporated into the fine art of life drawing. Repetition of this course provides skill development. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (No prerequisite) This course may be taken four times.

ART 125 Drawing I 3.0 Units
(CAN ART 8)
This course is an introduction to principles and techniques in drawing. Students will gain a working knowledge of line, shape, perspective, proportion, volume, and composition. Students will learn how to look at, evaluate and present art work as well as be introduced to traditional and contemporary drawing with an emphasis on the development of observational skills and creative thinking. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (No prerequisite. Grade option). This course may be taken four times.

ART 126 Drawing II 3.0 Units
An intermediate drawing course emphasizing development of skills learned in Drawing I with an emphasis on personal expression, thematic development and the use of color. A variety of drawing media will be explored. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Spring. (No prerequisite. Recommended preparation: ART 125.) This course may be taken two times.

ART 128 Special Topics
See Special Topics listing (Variable units). CSU, UC

ART 129 Independent Study
See Independent Study listing (1-3 units). CSU

ART 132 Advertising Art 3.0 Units
This course will present the elements and principles of advertising design and illustration. 32-36 hours lecture and 48-54 hours laboratory. CSU. Offered alternate years. (No prerequisite) This course may be taken two times.

ART 133 Digital Imaging 3.0 Units
An introductory course that explores a fine arts approach to computer generated imaging using Adobe Photoshop. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Spring. (No prerequisite. Recommended preparation: ART 112 or ART 113.) This course may be taken two times.

ART 134 The Art of Web Design 4.0 Units
An overview of industry standard software used for creating web pages. This course does not focus on HTML or scripting language but is focused on the development of effective communications design. 48-54 hours lecture and 48-54 hours laboratory. CSU,UC. (No prerequisite) This course may be taken four times.

ART 135 Introduction to Time Based Art/Communication 4.0 Units
This course covers the fundamental elements of creating and editing video using computer technology. Student will be taught how to use computer software to create dynamic visual content as it relates to artistic expression. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite) This course may be taken four times.

ART 136 Printmaking 3.0 Units
This is an introductory course in the principles, techniques, practice and historical development of printmaking. Students will be exposed to the practice of printmaking as an original art form. Students will gain a working knowledge of relief printmaking techniques, including Woodcut, Linocut, Intaglio printmaking (drypoint), Collagraph and Monotype printing. Students will learn how to observe, create, present and evaluate prints in a critical manner. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Recommended preparation: ART 125 or courses in drawing recommended.) This course may be taken two times.

ART 138 Cooperative Education
See Cooperative Education Listing (1-8 units). CSU

ART 141 Sculpture I 3.0 Units
Students explore the principles of three-dimensional forms in space in order to develop an understanding of the relationship between form, space and materials and process. In order to construct their own ideas in space students will become familiar with a variety of materials, which may include clay, metal, wood and stone. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite) This course may be taken two times.

ART 142 Sculpture II 3.0 Units
Students explore the traditional materials and techniques of sculpture such as building armatures, sculpting in wax, plaster and clay, mold making methods, and surface treatments for the sculptural pieces which may include stains, patina, antiquing and waxing of plaster and applying slips and glazes to clay. 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Recommended preparation: ART 141 or ART 112 or ART 113.) This course may be taken two times.

ART 150 Oil Painting I 3.0 Units
A beginning course in painting using oil color. Repetition of this course provides the opportunity for increased skill development. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite.) This course may be taken two times.

ART 151 Intermediate Oil Painting 3.0 Units
There will be continuation of techniques covered in Art l9A with an emphasis upon aesthetics, art history, critical analysis, and creativity. The student, through his own resourcefulness, is to formulate problems of compositional design, control of the medium and establish value judgments based upon fact that will be reflected in his works. Repetition of this course provides the opportunity for increased skill development. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered alternate semesters. (No prerequisite) This course may be taken four times.

ASTRONOMY

ASTR 101 Descriptive Astronomy 3.0 Units
A comprehensive study of astronomy. The historical development of astronomy, the structure of the solar system, modern techniques and instruments, the character of nebulae and galaxies, stellar character and theories, and the philosophical implications of astronomical discoveries. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite)

ATHLETICS

ATHL 120 Varsity Baseball 3.0 Units
Students will learn the basic skills, rules, and strategies for competition in baseball. CSU, UC (UC maximum credit allowed: 4 units) Offered Spring. This course may be taken four times.

ATHL 120P Preparation for Intercollegiate Men's Baseball 0.5-1.0 Unit
This Men's Baseball course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite. Grade Option.) Offered Fall, Winter, Summer. This course may be taken four times.

ATHL 121 Varsity Basketball (Men) 1.5 Units
Students will learn the basic skills, rules, and strategies for competition in basketball. CSU, UC (UC maximum credit allowed: 4 units) Offered Fall, Spring. This course may be taken four times.

ATHL 121P Preparation for Intercollegiate Men's Basketball 0.5-1.0 Unit
This Men's Basketball course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite. Grade Option.) Offered Fall, Spring, Summer. This course may be taken four times.

ATHL 122 Varsity Basketball (Women) 1.5 Units
Students will learn the basic skills, rules, and strategies for competition in basketball. CSU, UC (UC maximum credit allowed: 4 units) Offered Fall, Spring. This course may be taken four times.

ATHL 122P Preparation for Intercollegiate Women's Basketball 0.5-1.0 Unit
This Women's Basketball course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite. Grade Option.) Offered Fall, Spring, Summer. This course may be taken four times.

ATHL 123 Cross Country (Women) 3.0 Units
This cross country course is designed to develop the knowledge, skills and strategy for the serious and recreational competitive athlete in collegiate long distance running. The course is designed to emphasize competition and will help the athlete achieve a higher level of competitive ability through instruction of skills, techniques, strategy and personal evaluation during or after competition. The students will be given an opportunity to compete at a wide range of competitive levels. CSU, UC. (No prerequisite. Recommended: high school or club cross country running.) This course may be taken four times.

ATHL 123P Preparation for Intercollegiate Women's Cross Country 0.5-1.0 Unit
This Women's Cross Country course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite. Grade option.) Offered Spring, Summer. This course may be taken four times.

ATHL 124 Varsity Football 3.0 Units
Students will learn the basic skills, rules, and strategies for competition in football. CSU, UC (UC maximum credit allowed: 4 units) Offered Fall. This course may be taken four times.

ATHL 124P Preparation for Intercollegiate Football 0.5-1.0 Unit
This Football course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite. Grade Option.) Offered Spring, Summer. This course may be taken four times.

ATHL 125 Varsity Golf (Men) 3.0 Units
Students will learn the basic skills, rules, and strategies for competition in golf. CSU, UC (UC maximum credit allowed: 4 units) Offered Spring. This course may be taken four times.

ATHL 125P Preparation for Intercollegiate Golf 0.5-1.0 Unit
This Golf course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite) Offered Fall, Summer. This course may be taken four times.

ATHL 126 Varsity Soccer (Women) 3.0 Units
Students will learn the basic skills, rules, and strategies for competition in soccer. CSU, UC (UC maximum credit allowed: 4 units) Offered Fall. This course may be taken four times.

ATHL 126P Preparation for Intercollegiate Women's Soccer 0.5-1.0 Unit
This Women's Soccer course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite. Grade Option.) Offered Spring, Summer. This course may be taken four times.

ATHL 127 Varsity Softball 3.0 Units
Students will learn the basic skills, rules, and strategies for competition in softball. CSU, UC (UC maximum credit allowed: 4 units) Offered Spring. This course may be taken four times.

ATHL 127P Preparation for Intercollegiate Women's Softball 0.5-1.0 Unit
This Women's Softball course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite) Offered Fall, Winter, Summer. This course may be taken four times.

ATHL 128 Varsity Tennis (Women) 3.0 Units
Students will learn the basic skills, rules, and strategies for competition in tennis. CSU, UC (UC maximum credit allowed: 4 units) Offered Spring. This course may be taken four times.

ATHL 128P Preparation for Intercollegiate Women's Tennis 0.5-1.0 Unit
This Women's Tennis course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite. Grade Option.) Offered Fall, Winter, Summer. This course may be taken four times.

ATHL 129 Varsity Tennis (Men) 3.0 Units
Students will learn the basic skills, rules, and strategies for competition in tennis. CSU, UC (UC maximum credit allowed: 4 units) Offered Spring. This course may be taken four times.

ATHL 129P Preparation for Intercollegiate Men's Tennis 0.5-1.0 Unit
This Men's Tennis course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite. Grade Option.) Offered Fall, Winter, Summer. This course may be taken four times.

ATHL 130 Varsity Volleyball 3.0 Units
Students will learn the basic skills, rules, and strategies for competition in volleyball. CSU, UC (UC maximum credit allowed: 4 units) Offered Fall. This course may be taken four times.

ATHL 130P Preparation for Intercollegiate Volleyball 0.5-1.0 Unit
This Volleyball course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite) Offered Spring, Winter, Summer. This course may be taken four times.

ATHL 132 Varsity Wrestling (Men) 3.0 Units
Students will learn the basic skills, rules, and strategies for competition in wrestling. CSU, UC credit pending (UC maximum credit allowed: 4 units) Offered Fall. This course may be taken four times.

ATHL 132P Preparation for Intercollegiate Wrestling 0.5-1.0 Unit
This Wrestling course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite. Grade Option.) Offered Spring, Summer. This course may be taken four times.

ATHL 133 Men's Cross Country 3.0 Units
A cross country course designed to develop the knowledge, skills and strategy for the serious and recreational competitive athlete in collegiate long distance running. The course is designed to emphasize competition and will help the athlete achieve a higher level of competitive ability through instruction of skills, techniques, strategy and personal evaluation during or after competition. Students will be given an opportunity to compete. CSU, UC. (No prerequisite) Offered Fall. This course may be taken four times.

ATHL 133P Preparation for Intercollegiate Men's Cross Country 0.5-1.0 Unit
This Men's Cross Country course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite. Grade Option.) Offered Spring, Summer. This course may be taken four times.

ATHL 134 Track and Field (Women) 3.0 Units
Students will demonstrate knowledge of rules, meet organizations, proper mechanics of running, strategies necessary for competition in collegiate track and selected field events. Students must demonstrate a desire to learn, train, accept challenges, and excel in collegiate track and field. CSU, UC (UC maximum credit allowed: 4 units) Offered Spring. This course may be taken four times.

ATHL 134P Preparation for Intercollegiate Women's Track and Field 0.5-1.0 Unit
This Women's Track and Field course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite. Grade Option.) Offered Fall, Winter, Summer. This course may be taken four times.

ATHL 135 Track and Field (Men) 3.0 Units
Students will demonstrate knowledge of rules, meet organizations, proper mechanics of running, strategies necessary for competition in collegiate track and selected field events. Students must demonstrate a desire to learn, train, accept challenges, and excel in collegiate track and field. CSU, UC (UC maximum credit allowed: 4 units) Offered Spring. This course may be taken four times.

ATHL 135P Preparation for Intercollegiate Men's Track and Field 0.5-1.0 Unit
This Men's Track and Field course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite. Grade Option.) Offered Fall, Winter, Summer. This course may be taken four times.

ATHL 140 Varsity Soccer (Men) 3.0 Units
Students will demonstrate knowledge of rules, basic skills, and offensive and defensive strategies necessary to compete at collegiate level for soccer. CSU, UC. (No prerequisite) Offered Fall. This course may be taken three times.

ATHL 140P Preparation for Intercollegiate Men's Soccer 0.5-1.0 Unit
This Men's Soccer course is designed to satisfy the interest, development and needs of the highly skilled student athlete. It will provide students with high level instruction and experience required for intercollegiate competition. CSU (No prerequisite. Grade Option.) Offered Spring, Summer. This course may be taken four times.

AUTOMOTIVE

AUTO 50 Introduction to Automotive Technology 4.0 Units
This course provides the student with a basic knowledge of automotive systems and components. Information covered will serve as a foundation and prerequisite for advanced automotive classes. Topics covered will include safety, tool and shop equipment uses, industry practices, technician certification, theory and design of the major automotive systems. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 50.1 Evolution of the Automobile 3.0 Units
This course will explore changes to the automobile relating to design, power plants, creature comforts, and environmental impact. Material covered will include changes each decade and how these were influenced. 48-54 hours lecture. (No prerequisite. Grade Option.) This course may be taken three times.

AUTO 50.2 American Car Culture 3.0 Units
Ever since the car was invented Americans have had a love affair with their cars as well as where the cars take us. This course investigates road side attractions, automotive trends, diners, gas stations and Route 66. 48-54 hours lecture. (No prerequisite.) This course may be taken three times.

AUTO 50.5 Basic Automotive Service and Maintenance 3.0 Units
This course covers the basic functions of all the automotive systems as well as key parts of the entire automotive industry. Topics covered will include minor preventive maintenance procedures. 48-54 hours lecture. (No prerequisite.) This course may be taken four times.

AUTO 51 Automotive Engines and Drive Trains 12.0 Units
This course covers techniques used by the Automotive Industry to diagnose and repair engine and drive train malfunctions, cylinder head, cylinder block, and drive train systems. Instruction will cover the diagnosis and repair of engine and drive train systems, cylinder heads, cylinder blocks, rotating assemblies, and basic drive train as they apply to the automobile. 128-144 hours lecture and 192-216 hours laboratory. (Prerequisite: AUTO 50 with a minimum grade of "C") This course may be taken four times.

AUTO 51A Engine Repair 6.0 Units
This course provides the student with the knowledge necessary to diagnose and repair engines. Information covered will include diagnosis and repair of cylinder head and valve train, engine block, lubrication, cooling systems and general engine assembly. 72-81 hours lecture and 72-81 hours laboratory. (Prerequisite: AUTO 50 with a minimum grade of "C" or equivalent experience.) This course may be taken four times.

AUTO 52.0 Automotive Cylinder Head Machinist 4.0 Units
This course covers diagnosis and repair of cylinder heads and their components. 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: AUTO 51 or equivalent) This course may be taken four times.

AUTO 53.0 Automotive Machinist/Cylinder Block Specialist 4.0 Units
This course covers diagnosis and repair of the components of Cylinder Block: cylinder bores, oil galley, crank shaft bores, camshaft bores. Related parts will be disassembled inspected and determination made of the serviceability of existing parts. The need for replacement parts will be established as the components are reassembled. 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: AUTO 51)

AUTO 54.0 Automotive Machinist/Engine Assembly Specialist 4.0 Units
This course covers the inspection and reassembly of an engine assembly. Operations include valve timing component installation and verification, inspection and mounting of cylinder heads on the cylinder block, all peripheral engine components (water pump, fuel pump, intake manifold, exhaust manifold, fuel system, ignition system), and initial setup and test run. This course will not apply to the Associate Degree. 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: AUTO 51)

AUTO 55.0 Automotive, Standard Transmission and Differential Overhaul 5.0 Units
This course covers diagnosis and repair of the components of standard transmission systems, gears, synchronizers, bearings, clutches, and electronic controls. Standard transmissions and related parts will be disassembled, inspected and determination made of the serviceability of existing parts. The need for replacement parts will be established as the components are disassembled, inspected and reassembled. 72-81 hours lecture and 72-81 hours laboratory. (Prerequisite: AUTO 51) This course may be taken four times.

AUTO 56.0 Automatic Transmission Overhaul 5.0 Units
This course covers diagnosis and repair of the components of automatic transmission systems: clutches, bands, servo valve bodies, hydraulic pumps, cases, governors, torque converters, and electronic controls. Automatic transmissions and related parts will be disassembled, inspected and determination made of the serviceability of existing parts. The need for replacement parts will be established as the components are disassembled, inspected and reassembled. 48-54 hours lecture and 96-108 hours laboratory. (Prerequisite: AUTO 51) This course may be taken four times.

AUTO 56A Transmission Computer Systems 2.0 Units
This course covers techniques used by the automotive industry to diagnose and repair transmission computer systems. Instruction will cover the diagnosis and repair of runability problems relating to electronic malfunctions of the computer controlled transmission. 24-27 hours of lecture and 24-27 hours laboratory. (Prerequisite: AUTO 56 with a minimum grade of "C".) This course may be taken four times.

AUTO 57.0 Automotive Brakes, Suspension, and Wheel Alignment 12.0 Units
This course covers diagnosis and repair and maintenance of the brake and suspension systems; drum and disc brakes, brake hydraulics, power assist units, front and rear suspension systems, shocks and struts, steering linkages and power steering systems. All aspects of alignments will be covered including two and four wheel and struts on different alignment apparatuses. Maintenance of all parts of the brake and suspension systems will be covered. 128-144 hours lecture and 216-243 hours laboratory. (Prerequisite: AUTO 50 with a minimum grade of "C".) This course may be taken four times.

AUTO 57.1 Automotive Brakes, Theory and Function 3.0 Units
This course covers safety practices, theory, applications, braking systems, and antilock brakes. 48-54 hours lecture. (No prerequisite.) This course may be taken four times.

AUTO 58 Automotive Lubrication Technician 2.0 Units
This course covers techniques used by the Automotive Industry to perform routine preventative maintenance. Instruction will cover changing automotive fluids, lubrication, safety inspections, installing filters and ignition components. 24-27 hours lecture and 24-27 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 59.0 Automotive Tire Technician 2.0 Units
This course covers techniques used by the Automotive Industry to perform duties of a tire technician. Instruction will cover brake and suspension inspections, mounting, balancing, and repairing tires. 24-27 hours lecture and 24-27 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 60 Automotive Suspension and Alignment 4.0 Units
This course covers diagnosis and repair of the components of automotive suspension system. All related parts of the suspension and steering are inspected and determination of serviceability is made. Alignment of the front and rear of the vehicles will be covered, both manual and computer alignment. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite.) This course may be taken four times.

AUTO 61.0 Automotive Brakes 4.0 Units
This course covers diagnosis and repair of the components of automotive brake systems: basic disassembled, inspected and determination made of the serviceability of existing parts. The need for replacement parts will be established as the components are disassembled inspected and reassembled. 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: AUTO 50 or equivalent experience) This course may be taken four times.

AUTO 62 Automotive Detailing 2.0 Units
This course provides students with the knowledge and skills necessary to correctly perform an automotive detail. Topics covered will include exterior paint polishing and treatment, interior and upholstery cleaning techniques, proper chemical and equipment usage, and dealership porter responsibilities. 16-18 hours lecture and 48-54 hours laboratory. (No Prerequisite) This course may be taken four times.

AUTO 63.0 Introduction to Diesel Engine Repair 4.0 Units
This course covers the techniques used by the Automotive and Medium Truck industries to diagnose and repair compression pressure combustion designed, four stroke, diesel fueled engines. Instruction will cover diesel engine design and operation, diesel fuel systems, air induction systems, light/medium duty electrical, and introduction to electronic fuel control. This course emphasizes the theory and operation of light/medium diesel engines. 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: AUTO 50)

AUTO 63A Advanced Diesel Engine Repair 4.0 Units
This course covers the techniques used by heavy duty truck industries to diagnose and repair compression pressure combustion designed, four stroke and two stroke diesel fueled engines. Instruction will cover diesel engine design and operation, diesel fuel systems, air induction systems, heavy duty electrical, and introduction to electronic fuel control. This course emphasizes hands-on frame and shop engine overhaul. 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: AUTO 51) This course may be taken four times.

AUTO 64.0 Medium/Heavy Duty Truck Suspension and Steering 4.0 Units
This course will provide students with the knowledge and techniques used by the trucking industry to diagnose, adjust, and repair medium/heavy duty truck suspension and steering systems. Instruction will cover theory, inspection, maintenance, and repair of suspension and steering systems. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 65.0 Heavy Duty Diesel Truck Lubrication and Inspection Technician 4.0 Units
This course covers the techniques used by the trucking industry to perform routine preventative maintenance on heavy duty diesel trucks. Instruction will cover changing fluids, lubrication, safety inspections, and installing filters. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 65.2 Fundamentals of Heavy Duty Truck and Off Highway Equipment Hydraulics 4.0 Units
Topics covered include introduction to hydraulic systems components and theory of operation, entry level skills to disassemble, inspect, reassemble and test hydraulic components and understand the relationship between component failure and system operation. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option.) This course may be taken four times.

AUTO 65.3 Advanced Heavy Duty Truck and Off Highway Equipment Hydraulics 6.0 Units
This course covers advanced hydraulic systems components and theory of operation, entry level skills to disassemble, inspect, reassemble and test hydraulic components and understand the relationship between component failure and system operation, hydrostatic motors, pumps, valves, and inspection and repair. 64-72 hours lecture and 96-108 hours laboratory. (Prerequisite: AUTO 65.2. Grade Option.) This course may be taken four times.

AUTO 65.4 Service and Repair Mobile Hydraulics 4.0 Units
This course covers inspection and repair of mobile hydraulic systems, theory of operation, entry level skills to disassemble, inspect, reassemble and test mobile hydraulic components, and the relationship between component failure and system operating hydrostatic motors, pumps, and valves. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option.) This course may be taken four times.

AUTO 65.5 Fundamentals of Heavy Equipment Systems Repair 4.0 Units
Introduction to services and repair of off road dirt moving heavy equipment and agricultural equipment. Designed to meet the needs of off road heavy equipment technicians. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite.) This course may be taken four times.

AUTO 65.6 Advanced Heavy Equipment Systems Repair 4.0 Units
Advance service and repair of off road dirt moving heavy equipment and agricultural equipment. Designed to meet the needs of off road heavy equipment technicians. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite.) This course may be taken four times.

AUTO 67.0 Heavy Duty Truck Air Brakes 4.0 Units
This course covers the techniques used by the trucking industry to diagnose and repair heavy duty truck air brake systems. Instruction will cover theory, inspection, maintenance, and repair of air brake systems. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken three times.

AUTO 68.0 Heavy Duty Truck Hydraulic Brakes 4.0 Units
This course covers the techniques used by the trucking industry to diagnose and repair heavy duty truck hydraulic brake systems. Instruction will cover theory, inspection, maintenance, and repair of hydraulic brake systems. 48-54 hours lecture and 48-54 hours laboratory.(No prerequisite) This course may be taken four times.

AUTO 70.0 Small Engine Repair 4.0 Units
This class covers the fundamentals of small internal combustion engines and their uses in various forms of equipment and light vehicles. Topics covered will include, but not limited to, theory of small internal combustion engines, troubleshooting, repair and small engine applications. 48-54 hours lecture and 48-54 hours laboratory.(No prerequisite) This course may be taken four times.

AUTO 71.0 Motorcycle Engine Repair 4.0 Units
This course provides the student with the knowledge necessary to diagnose and repair motorcycle engines/transmissions. Information covered will include engine diagnosis, disassembly and inspection, valve reconditioning, bearing replacement, piston and ring service, and engine reassembly. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 73.0 Motorcycle Service Tune Up and Maintenance 4.0 Units
This course provides the student with the knowledge necessary to perform motorcycle tune up and maintenance. Information covered will include chassis and suspension systems, servicing schedules and procedures, tire care, tune up schedules and procedures, wheel balancing, truing and balancing, brake systems, clutch systems, drive systems, general shop procedures and service writing. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 74.0 Motorcycle Fuel and Emission Systems Repair 4.0 Units
This course provides the student with the knowledge necessary to diagnose and repair motorcycle fuel and emission systems. Information covered will include a study of carburetor types, construction and operating principles, fuel injection principles, supercharging and turbocharging principles, two and four stroke motorcycle exhaust principles, motorcycle emission control principles, diagnosis and repair, fuel and emission system performance analysis. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 75.0 Motorcycle Electrical and Ignition Systems Repair 4.0 Units
This course provides the student with the knowledge necessary to diagnose and repair motorcycle ignition and electrical systems. Information covered will include electrical theory; motorcycle electrical circuitry and wiring schematics; electrical component identification, diagnosis and repair; motorcycle ignition systems identification, diagnosis and repair; ignition system performance analysis. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 77 Automotive Service Writing and Shop Manager 3.0 Units
This course prepares students to manage an automotive repair shop. Topics covered include work order preparation, parts and labor estimating, parts ordering, office and shop organization, writing a legal work order, sales skills, and customer relations. 48-54 hours lecture. . (No prerequisite) This course may be taken four times.

AUTO 77.1 Automotive Leadership and Team Building 3.0 Units
This course provides the student with the knowledge necessary to successfully build a functional automotive team and be an effective automotive team leader. Topics covered will include automotive industry team development, recruitment and retention of team members. The course will also cover automotive industry motivation and compensation and the creation and maintenance of employee policies and procedures handbooks. 48-54 hours lecture. (No prerequisite. Grade Option) This course may be taken four times.

AUTO 77.2 Automotive Safety Training for Managers 3.0 Units
This course provides the student with the knowledge necessary to initiate and maintain an effective automotive safety training program in an automotive repair facility. Topics covered will include employee "Right to Know" laws and training requirements, safety audits and facility assessment, hazardous communications guidelines, personal protective equipment, and material handling and storage. 48-54 hours lecture. (No prerequisite) This course may be taken four times.

AUTO 77L Automotive Service Writing and Shop Manager Laboratory 2.0 Units
This course prepares students to effectively write automotive service orders and manage an automotive repair shop. Topics covered include labor guide look up and labor calculation, work order preparation, parts and labor estimating, parts ordering, office and shop organization, writing a legal work order, sales skills, and customer relations. 96-108 hours laboratory. (No Prerequisite) This course may be taken four times.

AUTO 78.0 Auto Parts Specialist 4.0 Units
This course prepares students to perform the duties of a counterperson in an auto parts store. Topics covered will include automotive assemblies, systems and basic parts. Course includes instruction in customer service, telephone technique, sales, merchandising, and cash drawer management. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite.) This course may be taken four times.

AUTO 79.0 Automotive Tune-Up, Emission Control, and Fuel System 12.0 Units
This course covers techniques used by the automotive industry to diagnose and repair ignition systems, fuel systems, and emission control systems. Instruction will cover the diagnosis and repair of conventional and electronic ignition systems, conventional and feedback carburetors, fuel injection, and emission control devices. 128-144 hours lecture and 192-216 hours laboratory. (No prerequisite.) This course may be taken four times.

AUTO 79A Basic Tune-Up 2.0 Units
This course covers techniques used by the Automotive Industry to diagnose and repair fuel and ignition systems. Topics will cover the diagnosis and repair of conventional and electronic ignition systems, fuel systems, and introduction to automotive computers. 24-27 hours lecture and 24-27 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 79B Trouble Shooting and Repair of Ignition and Fuel Systems 4.0 Units
This course covers techniques used by the automotive industry to diagnose and repair ignition systems and fuel systems. Topics covered included the diagnosis and repair of conventional and electronic ignition systems, conventional and feed back carburetors, along with emission control devices. (No prerequisite) This course may be taken four times. 48-54 hours lecture and 48-54 hours laboratory.

AUTO 80.0 Automotive Computers, Electronics and Electrical Systems 12.0 Units
This course covers techniques used by the automotive industry to diagnose and repair electrical malfunctions, computer, fuel injection, and electronic ignition systems. Instruction will cover the diagnosis and repair of electronic ignition systems, alternators, starters, computers, and basic electrical and electronic concepts as they apply to the automobile. 128-144 hours lecture and 192-216 hours laboratory. This course may be taken four times.

AUTO 80.6 Introduction to Automotive Electricity 3.0 Units
This course covers electrical theory, basic electricity, electrical safety procedures, electrical diagnostic equipment, and industry approved procedures to diagnose and repair electrical malfunctions in the automobile. 48-54 hours lecture. (No prerequisite. Grade Option.) This course may be taken four times.

AUTO 80A Automotive Computers, Electronics, and Electrical Systems 4.0 Units
This course covers techniques used by the automotive industry to diagnose and repair computer and fuel injection systems. Topics covered include the diagnosis and repair of electronic ignition systems, alternators and starters. Basic electrical and electronic concepts as they apply to the automobile. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 82.0 Automotive Electrical Repair 4.0 Units
This course provides the student with the knowledge necessary to diagnose and repair automotive malfunctions including lighting systems, electrical instruments and accessories, electrical door components, air bags, and alarm systems. Information covered will include electrical fundamentals, test equipment, electrical circuits, electrical malfunctions, wiring diagrams, and electrical diagnosis. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 82.1 New Model Technology 4.0 Units
This class covers antitheft systems, immobilizer systems, keyless entry, traction control, tire pressure monitoring systems, navigation systems, blue tooth systems. Topics will cover diagnosis and repair of these systems. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 83D Basic Area California Clean Air Car Course 4.0 Units
This Bureau of Automotive Repair (BAR) Course provides the student with the knowledge necessary to perform a smog inspection in a basic inspection area according to BAR guidelines, generic On Board Diagnostic II (OBD II) systems. Information covered will include preconditioning procedures, proper use of smog test equipment, current laws and regulations, consumer waiver and extension procedures, generic OBD II information, BAR required update courses. This class satisfies the BAR requirement for the Basic Area California Clean Air Car Course. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 84.0 Enhanced Area California Clean Air Car Course 1.5 Units
This course covers information needed to prepare students to take the California State Smog Examination for an enhanced emissions area. Topics covered include the diagnosis and repair for oxides of nitrogen, oxygen sensor evaluation, emission failure diagnostic procedures, and dynamometer safety. This course trains technicians to use BAR '97 loaded mode test equipment and lab scopes. This class combines the BAR Dynamometer Diagnostics Update Class and 8 Hour Dynamometer Safety Class. 16-18 hours lecture and 24-27 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 85.0 Engine Performance 1.0 Unit
This course provides the student with the knowledge necessary to take a California Alternative Test for Engine Performance. Information covered will include engine testing and diagnosis, fuel management, ignition systems, computer theory and testing. Successful completion of this course satisfies the California Bureau of Automotive Repair's requirements for engine performance. 8-9 hours lecture and 24-27 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 85A Advanced Engine Performance 1.0 Unit
This course is preparation for the Bureau of Automotive Repair California Alternative Test for Advanced Engine Performance. Information covered will include engine testing and diagnosis, fuel management, ignition systems, computer diagnosis and repair. Successful completion of this course satisfies the California Bureau of Automotive Repairs requirements for advanced engine performance. Eight-nine hours lecture and 24-27 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 85A.1 Advanced Engine Performance Theory 3.0 Units
This course covers engine performance theory and techniques used by the automotive industry to diagnose and repair electrical malfunctions, computer, fuel injection, and electronic ignition systems. 48-54 hours lecture. (No prerequisite) This course may be taken four times.

AUTO 85B Automotive Electrical and Electronic Systems 1.0 Unit
This course is preparation for the Bureau of Automotive Repair California Alternative Test for Automotive Electrical and Electronic Systems. Information covered will include test equipment, electrical circuits, electrical malfunctions, wiring diagrams, and electrical diagnosis. Successful completion of this course satisfies the California Bureau of Automotive Repairs requirements for automotive electrical/electronic training. Eight – nine hours lecture and 24-27 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 86.1 Import Sport Tuning Engine Performance 4.0 Units
This course provides the student with the knowledge to properly install aftermarket engine performance parts while staying in the confines of applicable state and federal laws. Topics discussed will include forced air induction, exhaust systems, computerized fuel and ignition system modifications. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 86.2 Import Suspension Sport Tuning 4.0 Units
This course provides the student with the knowledge to install aftermarket lowering kits, suspension enhancements and alignment procedures for modified suspension systems. Information covered will include suspension geometry, accepted procedures for lowering vehicles, shock absorber choices, tire choices for sport tuned vehicles, and maintenance of modified suspensions. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 86.3 Extreme On and Off Road Suspension 4.0 Units
This course provides the student with the knowledge to install aftermarket lift kits, prerunner aftermarket fenders, modify gear ratios, and alignment procedures for modified suspension systems. Information covered will include suspension geometry, lift kit installation, vehicle raising procedures, prerunner aftermarket accessories, tire choices for modified vehicles, and maintenance of modified (raised) suspensions. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 86.4 Aftermarket Electrical Accessories 4.0 Units
This course provides the student with the knowledge to install aftermarket electrical accessories. Information covered will include electrical theory, installation of stereos, amplifiers, sub-woofers, and aftermarket lights. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 86.5 Import Body Customizing 4.0 Units
This course provides the student with the knowledge and skills necessary to customize and install aftermarket body parts. Course covers installation and customization of metal, fiberglass and high carbon fiber body parts, wings, spoilers, ground effects, and door direction reversing. This course also covers shaving door handles and installing remote control door release solenoids. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 86.6 American Iron Hot Rods 4.0 Units
This course provides the student with the knowledge to properly modify classic domestic vehicles. Topics covered will include engine performance enhancement and suspension modification. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 89.1 Introduction to Hybrid Vehicle Technology 4.0 Units
This course introduces hybrid vehicle technology. Topics covered will include electrical basics, batteries, types of hybrid vehicles, and preventive maintenance procedures. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 89.2 Hybrid Vehicle Maintenance and Service 4.0 Units
This course addresses hybrid vehicle maintenance and service procedures. Topics covered will include safety, manufacture specific hybrids, diagnostic and repair procedures as they relate to hybrid vehicles. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 91A Auto Body Repair I 4.0 Units
Basic auto body repair and refinishing techniques to prepare students with entry level skills used by the automotive industry. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 91B Auto Body Repair II 4.0 Units
This course is designed for the student who has received instruction in basic auto body repair. Topics covered will include structural repair, automotive refinishing, and damage analysis. The course will focus on developing auto body skills in a hands-on environment with emphasis on improving speed and workmanship. 48-54 hours lecture and 48-54 hours laboratory. This course may be taken four times.

AUTO 91L Automotive Body Laboratory 1.0 Unit
A laboratory class to develop skills in electrical, auto body and refinishing procedures. 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 92.0 Auto Body Damage Estimating I 2.0 Units
This class covers the basic of auto body damage estimating. Topics covered will include, but not limited to, sheet metal damage, primary and secondary frame and/or unibody damage, painting and blending, repair vs. replacement of components, and two or four wheel alignment needs. 24-27 hours lecture and 24-27 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 95A Automotive Laboratory 1.0 Unit
A laboratory class to develop skills in engine repair, tune up, emissions, electrical, suspension, brakes, and general maintenance procedures. 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 95B Automotive Laboratory 2.0 Units
A laboratory class to develop skills in engine repair, tune up, emissions, electrical, suspension, brakes, and general maintenance procedures. 96-108 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 97.0 Automotive Air Conditioning and Heating Systems 4.0 Units
This course covers diagnosis and repair of the components of the automotive air conditioning and heating systems; evaporators, compressors, control valves, condensers, blowers, heater cores, lines and hoses, mechanical and electronic temperature controls. Air conditioning and heating related parts will be disassembled, inspected and determination made of the serviceability of existing parts. The need for replacement parts will be established as the components are reassembled. Recovery and charging of different systems will be covered from both R-12 and R-134A systems. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

AUTO 97.1 Automotive Heating, Ventilation, & Air Conditioning, Theory and Function 3.0 Units
This course covers heating, ventilation, and air-conditioning (HVAC) theory, basic electricity, HVAC safety procedures, HVAC diagnostic equipment, and industry approved procedures to diagnose and repair HVAC malfunctions in the automobile. 48-54 hours lecture. (No prerequisite) This course may be taken four times.

AUTO 98 Special Topics
See Special Topics listing (Variable units).

AUTO 99 Car Care Clinic 1.0 Unit
This course covers preventative maintenance techniques for the modern automobile. Instruction will cover the Scheduling of preventive maintenance procedures, interactions wit auto repair shops, vehicle purchasing techniques, theory and operation of the engine, drive train, suspension, cooling system, brake and lighting system. One and one-half lecture hours, one and one-half laboratory hours per week for nine weeks. (No prerequisite) This course may be taken four times.

AUTO 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

AVIATION

AVA 51 General Aviation I 7.0 Units
This course is designed to prepare students for a career in aviation maintenance technology. Topics include math, basic electricity, basic physics, fluid lines and fittings and materials and processes. 48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. Grade Option.) This course may be taken four times.

AVA 52 General Aviation II 7.0 Units
This course is designed to prepare students for a career in aviation maintenance technology. Topics include maintenance and ground operations. 48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. Grade Option.) This course may be taken four times.

AVA 61 Airframe I 7.0 Units
This course is designed to prepare students for a career in aviation maintenance technology. Topics include aircraft materials (wood, metal, nonmetallic), coverings and finishes, aircraft inspection, assembly and rigging and welding. 48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. AVA 51 and AVA 52 recommended. Grade Option.) This course may be taken four times.

AVA 62 Airframe II 7.0 Units
This course is designed to prepare students for a career in aviation maintenance technology. Topics include aircraft atmosphere, communication, navigation, fuel, landing gear, hydraulic, and pneumatic power systems. 48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. AVA 51 and AVA 52 recommended. Grade Option.) This course may be taken four times.

AVA 63 Airframe III 7.0 Units
This course is designed to prepare students for a career in aviation maintenance technology. Topics include aircraft electrical systems, positioning and warning systems, ice and rain control systems, and fire protection systems. 48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. AVA 51 and AVA 52 recommended. Grade Option.) This course may be taken four times.

AVA 71 Powerplant I 7.0 Units
This course is designed to prepare students for a career in aviation maintenance technology. Topics include reciprocating engines, turbine engines, and engine inspection. 48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. AVA 51 and AVA 52 recommended. Grade Option.) This course may be taken four times.

AVA 72 Powerplant II 7.0 Units
This course is designed to prepare students for a career in aviation maintenance technology. Topics include induction and engine airflow systems, engine exhaust and reverser systems, and propellers. 48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. AVA 51 and AVA 52 recommended. Grade Option.) This course may be taken four times.

AVA 73 Powerplant III 7.0 Units
This course is designed to prepare students for a career in aviation maintenance technology. Topics include engine instrument systems, engine electrical, ignition and starting systems, and engine fuel systems. 48-54 hours lecture and 192-216 hours laboratory. (No prerequisite. AVA 51 and AVA 52 recommended. Grade Option.) This course may be taken four times.

BASIC SKILLS

BSKL 1 Reading and Writing One 2.0 Units
This course is the first in a series that focuses on reading and writing skills. Students develop their vocabulary base along with grammar and sentence writing skills. 16-18 hours lecture and 48-54 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit.) This course may be taken two times.

BSKL 1A Reading and Writing One A 1.0 Unit
This course is the first half of the first course in a series that focuses on reading and writing skills. Students develop their vocabulary base along with grammar and sentence writing skills. 8-9 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass.) This course may be taken four times.

BSKL 1B Reading and Writing One B 1.0 Unit
This course is the second half of the first course in a series that focuses on reading and writing skills. Students develop their vocabulary base along with grammar and sentence writing skills. 8-9 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass.) This course may be taken four times.

BSKL 2 Reading and Writing Two 2.0 Units
This course is the second in a series that focuses on reading and writing skills. Students develop their reading comprehension and paragraph writing skills. 16-18 hours lecture and 48-54 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: BSKL 1. Credit/No Credit.) This course may be taken two times.

BSKL 5 Beginning English Grammar 2.0 Units
The course covers core concepts in English grammar and includes such topics as subjects and verbs, common usage errors, clauses and phrases and punctuation. 16-18 hours lecture and 48-54 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass.) This course may be taken three times.

BSKL 6 Math Operations With Whole Numbers 1.0 Unit
This math course will review computations (addition, subtraction, multiplication, division) with whole numbers. The course also introduces translations of verbal problems into mathematical statements and includes instruction in rounding, approximation, and numerical estimation. 8-9 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite.) This course may be taken four times.

BSKL 7 Math Operations With Rational Numbers 1.0 Unit
This math course will review computations (addition, subtraction, multiplication, division) with fractions. The course also introduces verbal problems that involve fractions and mixed numbers. 8-9 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: BSKL 6 with a minimum grade of 'C" or equivalent.) This course may be taken four times.

BSKL 8 Math Operations With Decimals 1.0 Unit
This math course will review computations (addition, subtraction, multiplication, division) with decimals. The course also introduces verbal problems that involve decimals. Percentages, ratios, and proportions are also introduced. 8-9 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: BSKL 6 with a minimum grade of 'C" or equivalent.) This course may be taken four times.

BSKL 9 Math – Fractions, Decimals, Percentages 1.0 Unit
This math course will review computations with fractions and decimals. The course also introduces verbal problems that involve percentages. 48-54 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: BSKL 6 with a minimum grade of 'C" or equivalent. Pass/No Pass.) This course may be taken four times.

BIOLOGY

BIOL 30 Molecular Forensics 0.5 Unit
This course is designed to meet the need for continuing education and supplemental forensics training for law enforcement personnel and educators. Topics will include the molecular science behind DNA fingerprinting analysis and serology. Emphasis will be on collection, recognition, analysis, and evaluation of these forms of evidence. 9 hours lecture. (No prerequisite)

BIOL 31 Forensic Taphonomy 0.5 Unit
Taphonomy is the study of the postmortem process. Taphonomy incorporates the use of entomology, pathology, osteology, odontology, animal behavior and chemistry in order to recover, study and preserve dead organisms. Reconstruction of the biology and/or ecology along with circumstances of death is important in answering questions that pertain to cause, manner and time since death. This course will not apply to the Associate Degree. 9 hours lecture. (No prerequisite. Grade Option) This course may be taken four times.

BIOL 52 Forensic Entomology 3.0 Units
Students will learn some of the various aspects of forensic entomology. Students will learn basic insect morphology and how it applies to the forensic field. This course will also cover the basic forensic collection techniques, laboratory procedures, analysis of the data, and how to write a written case report.. 48-54 hours lecture. (No prerequisite. Grade Option.)

BIOL 54 Forensic Pathology 3.0 Units
This course examines the medico-legal investigation of death from accidental causes, suicides, homicides, blunt/sharp force injuries, gunshot wounds, asphyxia and drowning. The course will cover the identification of individuals through dental remains and records, as well as sex, age and race determinations. 48-54 hours lecture. (No prerequisite)

BIOL 70 Introduction to Biotechnology 5.0 Units
This course is designed to introduce students to concepts of modern molecular biology. The concepts will be applied as students learn general manipulation of phage, plant, and bacterial DNA. Students will learn theory and techniques of PCR, gene cloning, DNA fingerprinting, restriction analysis, immunoblot analysis and library construction/screening. 48-54 hours lecture and 96-108 hours laboratory. (No prerequisite)

BIOL 71 Introduction to Laboratory Technique 4.0 Units
An introduction to laboratory methods for students interested in a career in a laboratory setting. Emphasis will be on basic laboratory methods, the principles that underlie those methods, and the equipment that makes laboratory work possible. Topics will include laboratory safety, quality control, regulatory agencies, and will address problem solving in a laboratory environment. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite)

BIOL 72 Biomolecular Science 3.0 Units
This course is a theoretical approach to laboratory techniques common to modern biotechnical/clinical laboratories. Principles of molecular biology, genetics, metabolism, and immunology will be studied with emphasis on their application to modern analytical methods. Information and Communication technology will be used to develop formal writing and public speaking skills. See cross listing for CHEM 72. 48-54 hours lecture. (No prerequisite. Recommended: BIOL 100 or BIOL 107)

BIOL 98 A/B International Natural History 2.0-4.0 Units
This course offers students the opportunity to learn first hand about plants, animals, ecology, geography, and conservation policies of the destination country. Pre-trip lectures will include slide shows and previews of activities you will experience on the natural history tour. Eighteen lecture hours plus 54 hours laboratory for each unit. (No prerequisite. Grade Option.) This course may be taken four times.

BIOL 100 General Biology 4.0 Units
An introductory course in biological principles. Emphasis is on the scientific method, analysis of scientific data, metric system, current biological problems, cellular biology, genetics and heredity, classification and systematics, evolution, ecology, behavior and environmental issues. In addition, the laboratory will include a survey of the morphology characteristics of various organisms on this planet. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). Offered Fall, Spring, Summer. (No prerequisite)

BIOL 104 General Botany 4.0 Units
This botany course is for non-biology majors. Topics include plant anatomy, plant physiology, plant cell structure, photosynthesis, cell respiration, ecology, genetics, systematics, and plant evolution. The course also includes brief introductions to reproduction of flowering plants, mosses, ferns, and conifers; and sections on field botany and plant identification. Emphasis will be placed on use of the scientific method, critical thinking, and problem solving skills. Up to two field trips may be required. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Spring. (No prerequisite)

BIOL 107 Introduction to Human Biology 3.0 Units
An introduction to biological principles with a human perspective. Emphasis on cellular structure and function, organ systems, the concept of homeostasis, adaptation, cellular and population genetics, and the interaction of the human species with the ecosystem. 48-54 hours lecture. CSU. (No prerequisite)

BIOL 113 Biology of Sexually Transmitted Diseases 2.0 Units
This course will provide an understanding of the history and pathogenesis of the most prominent sexually transmitted diseases. Emphasis will be placed on the biological agent, epidemiology, diagnosis and treatment of the disease. Vaccine development and current treatments will also be examined. 32-36 hours lecture. CSU (No prerequisite)

BIOL 114 Introduction to Ecology 3.0 Units
The first part of this course covers ecology basics such as demography and population growth, species interactions and food webs, introduction to photosynthesis and metabolism, and nutrient cycling. The remainder of the course emphasizes environmental problems and how they relate to ecological principles. Topics include global biodiversity and endangered species, water and air pollution, alternate energy sources, alternative agriculture and pesticides, and other topics of local interest. Although this course has no laboratory, some outdoor activities may be required. 48-54 hours lecture. CSU, UC. (No prerequisite)

BIOL 118 Principles of Heredity 3.0 Units
A survey of Mendelian inheritance, quantitative traits, and population genetics. Also includes sections on DNA technology, immune genetics and genetics of cancer. This course places special emphasis on human inheritance and family pedigree analysis, and will stress development of critical thinking and problem solving skills. 48-54 hours lecture. CSU, UC. (No prerequisite)

BIOL 120 Identification and Study of Wildflowers 3.0 Units
This course employs an evolutionary approach to give students a working knowledge of plant classification, as well as an appreciation for the diversity of the flora of southern California. Students will learn how to use keys to identify local plant species, learn characteristics of the most common plant families, and will be able to describe, identify, and understand some of the dynamics of local plant communities. Vigorous field activities are required. Four lecture, six lab/field trip hours per week for 9-week course; two lecture, three lab/field trip hours per week for 18-week course. CSU. (No prerequisite. Grade Option)

BIOL 126 Natural History of the Mojave Desert 3.0 Units
This course acquaints students with the unique plants of the Mojave Desert and their adaptations for survival. Emphasis is on identification, life history, water economy, and thermoregulatory mechanisms. Mojave Desert plant communities, climate, geology, geography, and history will also be discussed. Local conservation issues will also be surveyed, with special consideration of rare and endemic species. 32-36 hours lecture and 48-54 hours laboratory. CSU. Offered Spring. (No prerequisite. Grade Option.)

BIOL 127 Identification and Study of Birds of the Mojave Desert and Adjacent Mountains 3.0 Units
Field identification of 75 bird species of the local area. Includes song and habitat identification, study of birds' feathers, colors, and their uses. Adaptations of bills, feet, wings, and bones. Course also covers the food of birds, their ecological relationships, eggs and nests, senses and behavior, flight and song. Course touches briefly on bird migration. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Grade Option.)

BIOL 128 Identification and Study of Amphibians and Reptiles of the Mojave and Adjacent Mountains 3.0 Units
This course is a survey of the amphibians and reptiles of the Mojave Desert and adjacent mountains. This course reviews amphibian and reptile characteristics, origin and evolution, and classification. This course will also discuss habitats, behaviors and adaptations of the local amphibians and reptiles. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BIOL 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

BIOL 149 Independent Study
See Independent Study listing (1-3 units). CSU

BIOL 201 Biology of Cells 5.0 Units (CAN BIOL 2)
This course will provide students with a comprehensive introduction to the biological principles at the cellular level. Emphasis will be placed on the scientific method, molecular biology, biochemistry, structure and function of cells, cellular reproduction and molecular genetics. This course is designed for preprofessional and biology majors but is open to all students. Majors should also take BIOL 202 and 203. 48-54 hours lecture and 96-108 hours laboratory. CSU, 72 hours lecture and 16-18 hours laboratory. CSU, UC. Offered Fall. (Prerequisite: CHEM 201 or CHEM 100 as prerequisite or corequisite).

BIOL 202 Biology of Organisms 5.0 Units (CAN BIOL 4)
This course will provide students with a comprehensive introduction to the extraordinary diversity of biological organisms on the earth. Emphasis will be placed on origins of life, the evolutionary relationships among groups of organisms, and the basic anatomy and physiology of the major groups of living organisms. This course is designed for preprofessional and biology majors but is open to all students. Majors should also take BIOL 201 and 203. 48-54 hours lecture and 96-108 hours laboratory. CSU, UC. Offered Spring alternating with BIOL 203. (No prerequisite)

BIOL 203 Population and Environmental Biology (Biology 201+202+203 = CAN BIOL SEQ A) 4.0 Units
This rigorous course is an introduction to the structure and organization of populations, communities and ecosystems. Emphasis will be on demography, population growth, life history traits, extinction, species interactions and behaviors, ecosystem dynamics and evolution, as well as selected current environmental issues. Mathematical modeling, a difficult yet important aspect of population and community ecology, will also be addressed. Students will participate in field laboratories, use statistics to analyze data and compose scientific papers. This course is designed for biological science majors, but is open to all students. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Spring alternating with BIOL 202. (No prerequisite.) This course may be taken two times.

BIOL 211 Human Anatomy 5.0 Units
An introduction to the gross and microscopic anatomy of the human body. Lab includes dissection of cat, sheep eye, kidney, heart, and larynx. Lab also includes demonstrations on a human cadaver and assorted anatomical models. Lecture covers cells, tissues, and the major human systems such as the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, respiratory, urinary, and reproductive. 48-54 hours lecture and 96-108 hours laboratory. CSU, UC (UC credit limitation). Offered Fall, Spring, Summer. (Prerequisite: BIOL 109, 100, 201 or 107 with a grade of "C" or better.)

BIOL 213 Sexually Transmitted Diseases 3.0 Units
This course will provide an understanding of the history and pathogenesis of the most prominent sexually transmitted diseases. Emphasis will be placed on the biological agent, epidemiology, diagnosis and treatment of the disease. Vaccine development and current treatments will also be examined. 48-54 hours lecture. CSU (No prerequisite) This course may be taken two times.

BIOL 215 Human Gross Anatomy 4.0 Units
An advanced anatomy class that utilizes a regional approach to the study of the thorax, abdomen, pelvis, back, extremities, head and neck. Lecture will include medical/clinical applications and case studies on these regions. Laboratory includes hands on group dissection on a whole cadaver; as well as work on a high-level anatomy software program. 48-54 hours lecture and 48-54 hours laboratory. CSU. Offered Fall, Spring, Summer. (Prerequisite: BIOL 211 with a grade of "C" or better.)

BIOL 221 General Microbiology 5.0 Units (CAN BIOL 14)
Introduction to bacteria, viruses, and parasitic forms of protozoa, helminths, and fungi. Examination of morphological, physiological, and epidemiological characteristics of these organisms and of the immune response produced by their hosts. 48-54 hours lecture and 96-108 hours laboratory. CSU, UC. Offered Fall, Spring, Summer. (Prerequisites: BIOL 100, 109, 107 or 201; CHEM 100 or CHEM 201; all completed with a grade of "C"or better.)

BIOL 231 Human Physiology 5.0 Units (CAN BIOL 12)
An introduction to general physiology with emphasis on the functioning of the human body. Included in the topics to be covered are biochemical aspects of cell function, integrated control of organ systems and homeostasis. The laboratory will include demonstrations and experiments to support basic physiological concepts. 48-54 hours lecture and 96-108 hours laboratory. CSU, UC (UC credit limitation). Offered Fall, Spring. (Prerequisite: One college chemistry class equivalent to CHEM 100 or CHEM 20l; and one college biology class equivalent to BIOL 201, 100, 109 or 107; and BIOL 211 or 212, all with a grade of "C"or better.)

BIOL 232 Human Physiology 4.0 Units
An introduction to general physiology with emphasis on the functioning of the human body. Included in the topics to be covered are biochemical aspects of cell function, integrated control of organ systems, and homeostasis. The laboratory will include demonstrations and experiments to support basic physiological concepts. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). Offered Fall, Spring. (Prerequisite: One college chemistry class (equivalent to CHEM 100 or CHEM 201); and one college biology class (equivalent to BIOL 201 or BIOL 100); and BIOL 212, all with a grade of "C" or better.)

BIOL 250A Tropical Field Biology and Natural History 3.0 Units
This course lets students experience the tropical environment from a fieldwork and research perspective. Students will learn research techniques hands-on from basic specimen collecting and data gathering in the field to preparing a manuscript for publication in a peer-reviewed scientific journal and will apply these in biodiversity surveys of both terrestrial and aquatic habitats. An emphasis will be placed on amphibians and reptiles and their adaptations to life in the tropical forest, as an example for the high diversity of tropical organisms. 48-54 hours lecture and 96-108 hours laboratory. CSU (Prerequisite: BIOL 100 or equivalent.)

BUSINESS ADMINISTRATION

BADM 50 Applied Accounting I 3.0 Units
Introduction to the bookkeeping problems of a small business enterprise for both merchandising and service-type organization. Emphasis on the development of skills for both cash and accrual methods of recording, including procedures for completion of an accounting cycle. Attention is given to special journals, subsidiary ledgers, and payroll and control systems. 48-54 hours lecture. Offered Fall, Spring. (No prerequisite)

BADM 51 Applied Accounting II 3.0 Units
Continuation of bookkeeping procedures. Special emphasis on development of skills in the following areas: valuation of assets, business taxes, problems of accruals and deferrals, department and branch office records, preparation of statements and budgeting. 48-54 hours lecture. Offered Fall, Spring. (No prerequisite)

BADM 52 Elements of Supervision 3.0 Units
This course is designed to introduce the student to the management skills needed by the first line supervisor. While employees generally receive promotions to supervision based on their technical skills and knowledge, this course provides new management and people skills to add to those technical skills. 48-54 hours lecture. Offered Fall, Spring. (No prerequisite)

BADM 100 Introduction to Business Organizations 3.0 Units
Business is dynamic and constantly changing. This course is designed to introduce the student to contemporary issues and principles of business. The business functions of management, marketing, accounting and finance presented along with global dimensions of business, the various forms of business ownership, teamwork, securities, ethics and social responsibility, and economic challenges facing the United States. 48-54 hours lecture. CSU, UC. Offered Fall, Spring, Summer (No prerequisite)

BADM 101 Financial Accounting 4.0 Units (CAN BUS 2)
This introductory financial accounting course provides instruction in the theory and practice of accounting applicable to recording, summarizing, and reporting of business transactions for external uses. Topics include coverage of asset valuation, revenue and expense recognition, and appropriate accounting methods for long term asses, liability, and capital accounts. Additional areas of coverage include financial statement and rational analysis. The course includes application of general ledger software as well as Microsoft Excel programs. This course is required for business majors preparing for and planning to transfer to a four year college or university. 64-72 hours lecture. CSU, UC (UC credit limitation). Offered Fall, Spring. (No prerequisite) This course may be taken two times.

BADM 102 Managerial Accounting 4.0 Units (CAN BUS 4)
This course is the study of theory and practices of managerial accounting and organizational quantitative analysis with decision making. Special emphasis is placed on product and process costing, responsibility accounting, break even analysis and master budgeting. 64-72 hours lecture. CSU, UC (UC credit limitation). Offered Fall, Spring. (No prerequisite) This course may be taken two times.

BADM 103 Financial Accounting 3.0 Units (CAN BUS 2)
This course is a study of the theory and practice of financial accounting for a sole proprietorship. Concepts and principles are introduced in a logical progression from the introduction of the accounting equation to preparation of financial statements. The course focuses on both service enterprises and merchandise enterprises. Business transactions are recorded, analyzed, and summarized within the accounting system of record keeping. 48-54 hours lecture. CSU, UC (UC credit limitation). Offered Fall, Spring, Summer. (No prerequisite)

BADM 104 Principles of Accounting 3.0 Units (CAN BUS 4)
This course covers accounting theory and procedures for corporations, basic accounting theory pertaining to the accounting for long-term liabilities and investments, the preparations and content of a cash flow statement, and basic financial statement analysis. In addition, this course covers accounting theory and procedures for a manufacturer (including job order and process costing systems, and actual, normal, and standard costing systems), budgeting (master budgets, cash budgets, and flexible budgets), cost-volume-profit analysis, variance analysis, responsibility accounting, and decision analysis including capital budgeting. 48-54 hours lecture. CSU, UC (UC credit limitation). Offered Fall, Spring. (No prerequisite) This course may be taken two times.

BADM 106 Accounting on Microcomputers 2.0 Units
A course in basic accounting procedures using IBM - PC microcomputers to complete all accounting procedures. General ledger, accounts payable, accounts receivable, depreciation, and payroll will be covered. 24-27 hours lecture and 24-27 hours laboratory. CSU. Offered Fall, Spring. (No prerequisite)

BADM 107 Accounting on Microcomputers 2.0 Units
This course is intended to be a continuation and expansion on accounting procedures covered in B AD 4A. Topics covered include billing, purchasing, product assembly, inventory control, payroll, taxation, and reporting and graphics presentations. Students successfully completing both B ADM 106 and 107 should be fully qualified to take full control of any computerized accounting program used by a small business. 24-27 hours lecture and 24-27 hours laboratory. CSU. (No prerequisite)

BADM 109 Human Resource Management 3.0 Units
This introductory course is designed to acquaint the student with the important functions performed by the human resource department in a business organization. These functions include recruiting, staffing, training and development, compensation, strategic human resource planning, personnel evaluation, and management-labor relations. Other topics include global issues, the legal environment, EEO, sexual harassment, and design of work. This course is for the managerial candidate, for those who have not had formal management training, or for the individual who is currently or interested in working in a human resource department. 48-54 hours lecture. CSU. Offered Fall, Spring. (No prerequisite)

BADM 110 Principles of Management 3.0 Units
This is an introductory course to the management functions of planning, organizing, leading and controlling. The concepts of corporate culture, the impact of the external environment, business ethics and social responsibility, motivation, communication and teamwork, globalization, and quality control are a few of the topics covered. This course is designed for the managerial candidate or for the individual who has worked but not had formal training in business management. 48-54 hours lecture. CSU. Offered Fall, Spring. (No prerequisite)

BADM 112 Introduction to Marketing 3.0 Units
This course is an introduction to contemporary marketing principles. Included in this course will be relationship marketing, the global dimension of marketing, e-commerce, marketing plan development, research, market segmentation, product strategy, distribution, promotional, and pricing strategies. 48-54 hours lecture. CSU. Offered Fall, Spring. (No prerequisite, Grade Option)

BADM 113 Retailing Management 3.0 Units
This course presents a strategic approach to retail management. Topics include appropriate marketing strategies, communicating with customers and staff, searching for and finding appropriate retail locations, and merchandising and pricing. Field trips may be included. 48-54 hours lecture. CSU. Offered Spring. (No prerequisite. Grade Option.)

BADM 116 Human Relations in Business 3.0 Units
Human relation skills mean interactions among people and represent the single biggest reason for career success and failure. This course provides a clear understanding of human relation concepts, the application of human relation concepts for critical thinking in the business world, and the ability to increase the student's development of human relation skills. 48-54 hours lecture. CSU. Offered Fall, Spring. (No prerequisite)

BADM 117 Legal Environment of Business 3.0 Units
The study of the American legal system and principles of law as applies to business. Course content includes the legal environment of business, nature and source of law, court systems, dispute resolution, common and statutory law, Constitutional law, administrative agencies, torts and business torts, contract law, and the Uniform Commercial Code as it relates to the sale of goods. Additionally, the legal forms of business will be addressed as to the formation, operation, and termination of proprietorships, partnerships, and corporations. 48-54 hours lecture. CSU, UC (UC credit limitation). Offered Fall, Spring, Summer. (No prerequisite, Grade Option)

BADM 118 Business Law 3.0 Units
The study of business law, both case and statutory, as it applies to the Uniform Commercial Code dealing with negotiable instruments; secured transactions and bankruptcy; employment law and agency; property, real and personal, to include bailments; and governmental agencies' regulation of business to include antitrust and fair business practices. 48-54 hours lecture. CSU, UC (UC credit limitation). Offered Fall, Spring. (No prerequisite)

BADM 122 Small Business Management 3.0 Units
An introduction to contemporary management techniques used by small businesses in the free enterprise system. The course focuses on entrepreneurial opportunities, developing a business plan for a planned or existing small business, small business marketing, operations, and financial management. 48-54 hours lecture. CSU. Offered Fall, Spring. (No prerequisite)

BADM 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

BADM 142 Business Mathematics 3.0 Units
An introduction to a variety of business computations and applications such as percents, payroll, markup/markdown, cash and trade discounts, simple and compound interest, annuities, credit, mortgages, financial statements, inventory, depreciation, and taxes. 48-54 hours lecture. CSU. Offered Fall, Spring, Summer. (No prerequisite)

BADM 144 Business Communications 3.0 Units
Studies the principles and role of business communication and the need for communication skills in a global marketplace. Emphasizes written communications such as standard and persuasive business letters, memorandums, and informational as well as analytical reports. Studies effective proposal, resumes, and other employment-related documents. Develops planning, organizing, and outlining skills as well as editing proficiency. Evaluates grammar skills and improves writing style. 48-54 hours lecture. CSU. Offered Fall, Spring. (No prerequisite. Grade Option.)

BADM 148 Special Topics
See Special Topics listing (Variable units). CSU

BADM 149 Independent Study
See Independent Study listing (1-3 units). CSU

BUSINESS EDUCATION TECHNOLOGIES

BET 65 Speedwriting 3.0 Units
A simplified method of shorthand based on systematic abbreviations. This course is intended for the entry-level promotable secretary, the electronic office, and college students desiring note-taking skills. 48-54 hours lecture. Offered Fall, Spring. (No prerequisite) This course may be taken four times.

BET 68 Proofreading 1.0 - 3.0 Units
Students develop proofreading skills necessary to meet high levels of accuracy and review basic business English skills: punctuation, word usage, sentence and paragraph structure. Practice/exercises are done on the microcomputer for Modules B and C. Offered Fall, Spring. 18 hours lecture per unit, per term. (Prerequisite: Successful completion of BET 103A or BET 104A) This course may be taken three times.

BET 74 Office Machine Calculations 2.0 Units
Provides practice on ten-key calculating machine with applications of actual business problems and forms. 64-72 hours individualized instruction. (No prerequisite)

BET 77 Speed and Accuracy Development 2.0 Units
This course is designed to fit the needs of each student and develops keyboarding/typing speed for continuing to higher level courses or developing job skills by intensive training and practices. 96-108 hours laboratory or 64-72 hours individualized instruction. (No prerequisite. Grade Option.) This course may be taken four times.

BET 100 Introduction to Computers 2.0 Units
This course is directed to those with little or no computer experience. It will introduce basic essential elements of computers such as: power up, hardware components, evolution of computers, types of personal computers, the input-process-out put cycle, desktop components, email, and the World Wide Web. 32-36 hours lecture. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 101 Beginning Keyboarding/Typing 1.0 Unit
This course is individualized to fit the needs of each student and develop basic alpha/numeric keyboarding skills and basic mouse operation on the computer. Emphasis is on achieving a straight-copy speed of 20 gross words a minute with a predetermined error limit. 8-9 hours lecture and 24-27 hours laboratory. CSU. (No prerequisite) This course may be taken four times.

BET 104 Beginning Word Processing/ Typing: Word for Windows A/B/C 3.0 Units
This course Introduces students to Word for Windows. Students will develop a working knowledge of this current software package to prepare documents. 48-54 hours lecture or 96-108 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 104A Word for Windows A 1.0 Unit
This course introduces students to Word for Windows with emphasis on creating, editing, formatting, and printing documents. It is designed for students with limited experience on the computer. 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. ((No prerequisite. Grade Option.) This course may be taken four times.

BET 104B Word for Windows B 1.0 Unit
This course introduces students to Word for Windows. Students will develop a working knowledge of this current software package to prepare documents. 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 104C Word for Windows C 1.0 Unit
This course introduces students to Word for Windows. Students will develop a working knowledge of advanced Word features including styles, macros, and integrating Microsoft Office programs. 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 107 Internet A/B/C 3.0 Units
This course is designed to teach students concepts and business skills of the Internet including creating an e-mail account; creating, editing, and printing effective web pages; and understanding Internet technologies and security. 48-54 hours lecture or 96-108 hours individualized instruction. CSU (No prerequisite. Grade Option.) This course may be taken four times.

BET 107A Internet A 1.0 Unit
This introductory course is a self-paced, individualized course. Basic Internet topics and commands such as defining the Internet and browsing the Web are covered. 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 107B Internet B 1.0 Unit
This introductory course is a self-paced, individualized course. Internet topics and commands such as searching the Internet, composing and sending e-mails, and using research and reference tools are covered. 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 107C Internet C 1.0 Unit
This third unit is a self-paced, individualized introduction designed to teach students concepts of Internet technologies and security, creating web pages and managing a web site. 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 112 Spreadsheet: Excel for Windows A/B/C 3.0 Units
This course offers spreadsheet operations for creating, editing, formatting and enhancing charts in worksheets. Students learn to manage workbooks and prepare them for the web. Students plan, create, and then filter lists using Excel's database. 48-54 hours lecture or 144-162 hours laboratory or 96-108 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 112A Spreadsheet: Excel for Windows A 1.0 Unit
This first unit of Excel is a self-paced, individualized introduction to spreadsheet operations for creating, editing, formatting and placing graphics in worksheets. Extensive hands-on practice for students is provided at individualized workstations. 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 112B Spreadsheet: Excel for Windows B 1.0 Unit
This second unit is a self-paced, individualized introduction to the commands and functions for customizing the worksheet, working with the tool bar, and enhancing worksheet charts or graphs. Extensive hands-on practice is provided at individual workstations. 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 112C Spreadsheet: Excel for Windows C 1.0 Unit
This third unit is a self-paced, individualized introduction to complex formulas, enhancing charts and worksheets working with pivot tables and customizing Excel and advanced worksheet management. Extensive hands-on practice is provided at individual workstations. 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 118 Database: Access A/B/C 3.0 Units
Familiarity with computers is recommended. Introduces database concepts through advanced skill levels including advanced queries, briefcase replication, macros and use of Visual Basic for applications code. 48-54 hours lecture. CSU. (No prerequisite) This course may be taken three times.

BET 118A Database: Access A 1.0 Unit
Introduces database concepts and skills. Students will learn to manage and organize database files with extensive hands-on practice at individual work stations. 32-36 hours individualized instruction. CSU. Offered Fall, Spring, Summer (No prerequisite) This course may be taken three times.

BET 118B Database: Access B 1.0 Unit
This second unit in database management will feature advanced querying, storing and organizing business information. 32-36 hours individualized instruction. CSU. Offered Fall, Spring, Summer (Prerequisite: BET 118A) This course may be taken three times.

BET 118C Database: Access C 1.0 Unit
This course is designed to teach the student advanced concepts and business skills using Access, including working with advance queries, briefcase replication, macros and the use of Visual Basic for applications code. 32-36 hours individualized instruction. CSU. Offered Fall, Spring, Summer (Prerequisite: BET 118B) This course may be taken three times.

BET 122 Intermediate Keyboard/Typing Modules A/B/C 3.0 Units
This course is designed to build speed and skills learned in Beginning Typing/Keyboarding with an emphasis on attaining straight copy rate of 45-60 gross wpm with a predetermined error limit. Additionally, students will develop skills needed to effectively format a variety of business documents. 96-108 hours individualized instruction. CSU. Offered Fall, Spring, Summer. (No prerequisite. Grade Option.) This course may be taken four times.

BET 123L Machine Transcription – Legal 3.0 Units
Students develop machine transcription skills used in a typical law firm and learn to prepare legal documents and correspondence. 96-108 hours individualized instruction. CSU. Offered Fall, Spring. (Prerequisite: Successful completion of BET 103C or 104C. Recommended: BADM 117) This course may be taken three times.

BET 123M Machine Transcription - Medical 3.0 Units
Students develop machine transcription skills for a medical transcriber and learn the use and meaning of medical terminology used in the Allied Health field. 96-108 hours individualized instruction. CSU. Offered Fall, Spring. (Prerequisite: Successful completion of BET 103C or 104C. Recommended: ALDH 139) This course may be taken three times.

BET 123T Machine Transcription 1.0 Unit
Introduces students to word processing transcription of business letters and memos working from transcription machines. Emphasis is on mechanics of written English, and letter styles. 32-36 hours individualized instruction. CSU. (Prerequisite: Successful completion of BET 103A or 104A) This course may be taken three times.

BET 124 Records Management with Microcomputer Applications 2.0 Units
Principles and procedures of establishing and maintaining records systems with detailed instruction and practice in the use of alphabetic, geographic, numeric, and subject filing systems as defined by the Association of Records Managers and Administrators; setting up and managing electronic files. Also includes topics on effective listening, working with people, and telephone techniques. 32-36 hours lecture. CSU. (No prerequisite)

BET 131 Presentation Software: PowerPoint A/B/C 3.0 Units
This course is designed to teach students concepts and business skills of PowerPoint including creating, editing, and printing effective presentations. Students learn advanced PowerPoint features such as creating graphs and tables, and customizing, and inserting artwork, WordArt, and slide show effects. Students learn concepts and business skills of PowerPoint. The concepts and skills include working with embedded and linked objects, hyperlinks, and delivering and publishing presentations. 48-54 hours lecture or 144-162 hours laboratory or 96-108 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 131A Presentation Software: PowerPoint A 1.0 Unit
This course is designed to teach students the concepts and business skills of PowerPoint including creating, editing, and printing effective presentations. This class provides students with skills that enable them easily and quickly to produce classroom and business presentations. 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 131B Presentation Software: PowerPoint B 1.0 Unit
Students will learn advanced PowerPoint features such as creating graphs, tables, customizing color schemes and inserting artwork, WordArt and slide show effects. 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 131C Presentation Software: PowerPoint C 1.0 Unit
This is a self-paced, individualized introduction designed to teach students concepts and business skills of PowerPoint including customizing, working with embedded and linked objects and hyperlinks and delivering and publishing presentations. 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 133 Microsoft Office 3.0 Units
This class is designed to introduce students to the basic functions of Microsoft Office Word, Excel, PowerPoint, and Access, as well as a brief overview of operating systems and the Internet. 48-54 hours lecture. CSU. (No prerequisite. Grade Option.) This course may be taken two times.

BET 136 Career Applications for Word Processing 3.0 Units
This course is designed for the student who is familiar with word processing functions and formatting principles. Topics will include terminology and methodology used in a variety of business careers by applying formatting and keyboarding skills to complex professional documents including letters, memos, forms, tables and reports. 48-54 hours lecture. CSU. (No prerequisite. Recommended preparation: Successful completion of BET 104 or BET 103. Ability to use word processing functions to create, format and edit advanced business documents. Grade Option.) This course may be taken four times.

BET 137 Desktop Publishing: Microsoft Publisher A/B/C 3.0 Units
This class is designed to teach students practical, professional quality publications using Microsoft Publisher. 48-54 hours lecture or 144-162 hours laboratory or 96-108 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 137A Desktop Publishing: Microsoft Publisher A 1.0 Unit
This is the introductory course designed to teach students the concepts and business skills of Microsoft Publisher. This class provides students with the skills to easily and quickly produce professional classroom and business publications. 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 137B Desktop Publishing: Microsoft Publisher B 1.0 Unit
This unit will teach students the advanced Publisher features such as enhancing a publication and using Publisher's drawing tools and styles. 16-18 hours lecture or 48-54 hours laboratory or 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 137C Desktop Publishing: Microsoft Publisher C 1.0 Unit
This unit is designed to teach students advanced concepts and business skills of Publisher including customizing publications and publishing web sites. 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

BET 141 OS: Windows A/B/C 3.0 Units
Introduction to Windows operating system and features through extensive hands-on exercises. 96-108 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 141A Operating System: Windows A 1.0 Unit
This first unit is an introduction to Windows, a Graphical User Interface environment. Extensive hands-on practice at individual workstations will provide students with the fundamental commands and features of Windows. 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 141B Operating System: Windows B 1.0 Unit
This second unit covers more extensive hands-on practice with additional Windows commands and use of icons. 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 141C Operating System: Windows C 1.0 Unit
This third unit includes features using program manager and Windows interface. 32-36 hours individualized instruction. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 142 Office Technologies and Procedures 3.0 Units
Students will learn practical application of current automated office procedures, duties, and human relations. Specific topics include telephone, electronic mail, Internet activities, data entry, reference resources, job seeking, mail and shipping services and procedures, office relations, office etiquette and dress, time management, travel arrangements, meetings, minutes, and office equipment. Development of critical thinking skills and decision-making skills throughout the course. 48-54 hours lecture. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 143 Business English 3.0 Units
This is a technical course to develop a proficiency in written business communication. A comprehensive review of proofreading, grammar, punctuation, sentence structure, and letter and memo formats emphasizes the function of business English in various types of business communications. 48-54 hours lecture. CSU (No prerequisite. Grade Option.) This course may be taken four times.

BET 145 Communications for Business 3.0 Units
This is a course designed for Business Education Technologies to create proficiency in the mechanics of writing, reading, and critically analyzing various types of business correspondence. This course includes a review of grammar, reading, proofreading and editing; and analysis of writing styles in business correspondence and report format. Principles of communication psychology as it applies to human relations will be reviewed in solving business communications problems. 48-54 hours lecture. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

BET 148 Special Topics
See Special Topics listing (Variable units).

BET 149 Independent Study
See Independent Study listing (1-3 units). CSU

BUSINESS ESCROW

BESC 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

BESC 141 Escrow I, Principles (Basic) 3.0 Units
Methods and techniques of escrow procedures for various types of business transactions with emphasis on real estate, including the legal and ethical responsibilities for persons engaged in escrow work. Elective for the Real Estate Broker's license. Meets the 18-month, post licensing, educational requirements for the California Real Estate Salesman's license. 48-54 hours lecture. CSU. Offered Fall. (No prerequisite)

BESC 142 Escrow II, Principles (Advanced) 3.0 Units
Covers the more unusual and difficult types of escrows with an evaluation of the possible solutions. Emphasis is on real estate with some personal property and bulk sales covered. Elective for the Real Estate Broker's license. Meets the 18-month, post licensing, educational requirements for the California Real Estate Salesman's license. 48-54 hours lecture. CSU. Offered Spring. (No prerequisite)

BESC 148 Special Topics
See Special Topics listing (Variable units). CSU

BESC 149 Independent Study
See Independent Study listing (1-3 units). CSU

BUSINESS REAL ESTATE

These classes are open to all students with an interest in Real Estate. They are not just for Licensees.

BRE 51 Mortgage Loan Brokering and Lending 3.0 Units
This course provides the student with the broad technical knowledge of both the state and federal laws governing the mortgage loan brokerage business and other lending practices in the state of California. General topics include disclosure statements, RESPA, fair lending practices, trust fund handling, hard money lenders, third party originators, reporting requirements, and securities in the lending industry. Satisfies one of the course requirements for a non-conditional real estate salesperson's license or for the real estate broker's examination. 48-54 hours lecture. Elective for Broker's License. (No prerequisite)

BRE 54 Principles of Mortgage Origination 3.0 Units
This course is designed to provide the student with basic skills needed to originate loans. It includes taking the borrower from the qualification process to designing a loan that will fit individual needs. This course helps demonstrate how to find the right loan among the maze of multiple programs available to the borrower. 48-54 hours lecture. (No prerequisite)

BRE 55 Principles and Practices of Mortgage Processing 3.0 Units
This course provides the student with the basics of loan processing and an overview of underwriting regulations and industry terminology. Students learn how to efficiently package and submit a loan for underwriting and approval. This course demonstrates how to analyze a loan application and relevant documents necessary for a loan submission. State and federal mandatory guidelines and disclosures are also discussed. 48-54 hours lecture. (No prerequisite)

BRE 56 Introduction to Financial Planning 3.0 Units
Financial planning draws upon several business disciplines such as finance, banking, insurance, and real estate as well as behavioral sciences that include economics and psychology. This course emphasizes the student's ability to analyze, evaluate, and make decisions regarding the components of personal financial planning. Discussion topics include the time value of money, managing money, the importance of life, health, disability, property and liability insurance, managing investments, tax planning, estate planning, retirement planning and more. 48-54 hours lecture. (No prerequisite)

BRE 60 Advanced Real Estate Appraisal: Compliance and Review Procedures 3.0 Units
This course draws on the disciplines of real estate brokerage, finance, banking and appraisal with special attention to loss reduction due to underwriting and appraisal errors. Students with prior experience in the banking, mortgage, or appraisal industries will appreciate this course, however all are welcome. This course enhances the student's ability to analyze, understand and correct errors in real estate appraisals on federally required underwriting forms, narrative reports and electronic data exchanges. Discussion topics include appraisal analysis, valuation trends, demographic and census interpolation, reporting, communication and review. Uniform Standards of Professional Appraisal Practice will be discussed in relation to the forms reviewed. 48-54 hours lecture. (No prerequisite) This course may be taken four times.

BRE 61 Advanced Real Estate Appraisal: Land Valuations 3.0 Units
This course offers investigative techniques used to analyze and evaluate data leading to land valuation reports. Topics include discussion of soils analysis, topographic study, market analysis, environmentally affected properties, subdivisions, and more. This course is a continued education elective for the California Real Estate Broker's license and all four types of California real estate appraisers. 48-54 hours lecture. (No prerequisite)

BRE 62 Advanced Real Estate Appraisal: The Narrative Report 1.0 Unit
This course offers and demonstrates the techniques designed to assist appraisers in effectively communicating the results of their valuation processes. Special emphasis is placed on the narrative portion of the form and/or complete self-contained type reports. 16-18 hours lecture. (No prerequisite)

BRE 100 Real Estate Principles 3.0 Units
Introductory course stressing the study of basic information in fundamental subjects in the field of real estate. Topics include legal aspects, legal descriptions, encumbrances, financing, escrow, contracts, taxation, subdivisions and zoning, appraisal, landlord/tenant relations, and arithmetic. Required course before testing for the Department of Real Estate Salesman's License. Elective for Real Estate Broker's License. 48-54 hours lecture. CSU. Offered Fall, Spring. (No prerequisite)

BRE 101 Real Estate Practices 3.0 Units
Working practices in office listings and sales methods leading to competence. General basic course leading toward professionalism in real estate practice. Advanced topics involve prospecting and listing techniques, real estate agency and disclosure, selling and marketing techniques, advertising, office operations, finance, property management and real estate investment. Required for Real Estate Broker's license. Mandatory course before testing for the Real Estate Salesman's license. 48-54 hours lecture. CSU. (No prerequisite)

BRE 110 Legal Aspects of Real Estate I 3.0 Units
A practical, applied study of California Real Estate Law which will help avoid legal difficulties arising from real estate transactions, instruments, zoning, and planning. This class is required for the Real Estate Broker's license and is an elective for the pretesting, educational requirements for the California Real Estate Salesman's license. 48-54 hours lecture. CSU. (No prerequisite)

BRE 120 Real Estate Appraisal 3.0 Units
This course examines narrative appraisal reports, theories of valuation, studies in specific properties, neighborhood data, market research, cost analysis, causes of depreciation, and how to treat the misplaced valuation of residential properties. Course also covers how to start an effective "appraisal plan" and sources of information. This course is an elective for the pretesting, educational requirements for the California Real Estate Salesman's license. 48-54 hours lecture. CSU. (No prerequisite.)

BRE 121 Advanced Real Estate Appraisal: Income Property 3.0 Units
Special emphasis given to income properties, how to obtain significant data and relate to the subject property, the importance of thorough research, and the introduction of capitalization methods. 48-54 hours lecture. CSU. Elective for Broker's License. (No prerequisite)

BRE 125 Taxes and Real Estate Investment 3.0 Units
Introductory real estate investment course discusses ownership interests, sources of financing, tax aspects of real estate ownership, market and cash flow analysis for income property, land investing, creative financing, and the laws dealing with foreclosure property investing. 48-54 hours Lecture. Advanced Finance course for Real Estate Brokers License. CSU. (No prerequisite)

BRE 126 Real Estate Finance 3.0 Units
This course offers a practical applied study and analysis of money markets, interest rates, and real estate financing with actual case illustrations. Cases demonstrate lending policies, problems, and rules involved in financing commercial and special purpose properties. This class is required for the Real Estate Broker's license and is an elective for the pretesting, educational requirements for the California Real Estate Salesman's license. 48-54 hours lecture. CSU. (No prerequisite)

BRE 127 Real Estate Office Administration 3.0 Units
Designed for practicing real estate brokers, managers, or salespersons who plan to open their own office. This course emphasizes factors for success in real estate brokerage. Topics discussed include office location, organization, marketing, accounting, finance, property management, development and professional relations. Elective for the Real Estate Broker's license. 48-54 hours lecture. CSU. (No prerequisite)

BRE 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

BRE 139 Real Estate Economics 3.0 Units
This course offers a study of the economic aspects that impact real estate values and land use. Included is the government's role in the economy, money and credit, community growth patterns, land use controls, and the economic principles of capitalism. This class is required for the Real Estate Broker's license and is an elective for the pretesting, educational requirements for the California Real Estate Salesman's license. 48-54 hours lecture. CSU. (No prerequisite)

BRE 140 Real Property Management 3.0 Units
Professional approach to the principles and practices of managing income properties. Topics include leases, rent schedules, collections, evictions, budgets, purchasing, market economics, taxation, maintenance, and record keeping. Elective for the Real Estate Broker's license and is an elective for the pretesting, educational requirements for the California Real Estate Salesman's license. 48-54 hours lecture. CSU. Offered Fall. (No prerequisite)

BRE 142 Real Estate Marketing 3.0 Units
A study of principles and processes involved in professionally marketing real estate. Course content includes: communication and marketing skills as practiced within the real estate industry, real estate advertising, target marketing, development of a marketing plan, product knowledge, people knowledge, qualifying both the buyer and the seller, negotiating and financing skills, and closing the escrow. Development of marketing tools including signs, maps, mail-outs and brochures, referrals, forms and media campaigns will also be covered. 48-54 hours lecture. CSU (No prerequisite)

BRE 148 Special Topics
See Special Topics listing (Variable units).

BRE 149 Independent Study
See Independent Study listing (1-3 units).

CHEMISTRY

CHEM 50 Forensic Chemistry 5.0 Units
This course introduces chemical and scientific techniques applicable to the analysis of physical evidence at a crime scene. Here, a crime is not limited to those against individuals. It also includes those against society such as environmental pollution, food adulteration and unsafe chemicals. The course is therefore applicable for students interested in entry level positions in a variety of fields including Administration of Justice, Anthropology and Government/Professional laboratories. A close relationship between theoretical lecture principles and field and laboratory methods is emphasized. 48-54 hours lecture and 96-108 hours laboratory. (No prerequisite)

CHEM 72 Biomolecular Science 3.0 Units
This course is a theoretical approach to laboratory techniques common to modern biotechnical/clinical laboratories. Principles of molecular biology, genetics, metabolism, and immunology will be studied with emphasis on their application to modern analytical methods. Information and Communication technology will be used to develop formal writing and public speaking skills. See cross listing for BIOL 72. 48-54 hours lecture. (No prerequisite. Recommended: BIOL 100 or BIOL 107)

CHEM 100 Introductory Chemistry (CAN CHEM 6) 4.0 Units
An introductory course in general, organic, and biological chemistry. This course is specifically designed for students preparing for careers in allied health, such as nursing and various fields of therapy. The course satisfies general education requirements for non-majors and assumes no background in chemistry. Basic math skills are highly recommended. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). Offered Fall, Spring, Summer. (No prerequisite) This course may be taken three times.

CHEM H100 Honors Introductory Chemistry (CAN CHEM 6) 6.0 Units
A foundation in the fundamental concepts, theories, and methodologies of Introductory Chemistry is highly recommended. Critical thinking and analytical skills will be used to develop problem-solving strategies used in Chemistry. Emphasis will be on the use of communication and information technologies in the analysis and presentation of experimental data. 64-72 hours lecture and 96-108 hours laboratory. CSU. UC (Prerequisite: Enrollment in honors course requires acceptance in Honors Program.)

CHEM 114 Environmental Chemistry 3.0 Units
A course whose concern is "Can we survive?" indicating that we live in a chemical world, a world of drugs, biocides, fertilizers, nerve gases, defoliants, detergents, plastics, and pollutants, all molecular in nature, and all produced chemically. Consideration of alternative solutions. Regulatory agencies and their functions and limitations. Introduction of sufficient fundamental chemistry to make the practical applications intelligible. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite)

CHEM 120 Introduction to Nutrition 3.0 Units
This course focuses on the fundamentals of carbohydrates, proteins, fats, vitamins, minerals, and their roles in human metabolism. It is specifically designed for individuals directing nutrition programs, hospitals, and care centers of those acquiring degrees in allied health, child development, or restaurant management, as well as interested homemakers. Selected nutrition topics include personalized and vegetarian nutrition, menu planning, marketing options and chemistry of nutrition. 48-54 hours lecture. CSU (No prerequisite) See cross listing for RMGT120. This course may be taken two times.

CHEM 128 Special Topics
See Special Topics listing (Variable units). CSU, UC

CHEM 129 Independent Study
See Independent Study listing (1-3 units). CSU

CHEM 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

CHEM 201 General Chemistry
(CAN CHEM 2) 4.0 Units
Theories of atomic structure and the application of these theories to an understanding of bonding, solution processes, state of matter, gas laws, general properties of matter, and principles of stochiometric calculations. Laboratory emphasis on the development of experimental skills, the calculations and significance of experimental data. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: CHEM 100 with a grade of 'C' or better.) (CHEM 201+202 = CAN CHEM SEQ A) This course may be taken two times.

CHEM 202 General Chemistry
(CAN CHEM 4) 5.0 Units
Using atomic theory as developed in Chemistry lA to examine the principles of periodic classification of the elements, thermodynamics, acids and bases, chemical equilibrium, reaction kinetics, coordination compounds. A survey of nuclear, organic and biochemistry. Laboratory emphasis on the development of experimental skills. 48-54 hours lecture and 96-108 hours laboratory. CSU, UC. Offered Spring. (Prerequisite: CHEM 201) (CHEM 201+202 = CAN CHEM SEQ A)

CHEM 206 Introductory Chemistry II:
Organic Chemistry 4.0 Units
An introduction to fundamental concepts of Organic Chemistry for students entering professional careers in allied health. Emphasis is on the structure, reactivity and mechanisms, chemical properties and nomenclature of major organic functional groups and their relationship to biological systems. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). Offered Spring. (Prerequisite: CHEM 100 with a grade of 'C' or better.) This course may be taken two times.

CHEM H206 Honors Introductory Chemistry II:
Organic Chemistry 5.0 Units
Modern organic synthesis, biotech, and pharmaceutical laboratories assess the feasibility of their proposed syntheses using computer generated models of target compounds. Current trends in modern research indicate a growing dependence on computational chemistry. This program will extend topics covered in CHEM 206 into basic concepts of computational chemistry. Emphasis will be on molecular modeling techniques, acquisition, processing, and presentation of experimental data. 64-72 hours lecture and 48-54 hours laboratory. CSU. UC

CHEM 207 Introductory Chemistry III:
Biochemistry 4.0 Units
An introduction to fundamental concepts of biochemical compounds for students entering professional health careers. Emphasis is on the structure, chemical properties, and physiological roles of carbohydrates, lipids, proteins, and nucleic acids. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Summer. (Prerequisite: CHEM 206 or equivalent)

CHEM H207 Introductory Chemistry III:
Biochemistry Honors 5.0 Units
The application of molecular modeling techniques to biological macromolecules. Computer generated force-fields and molecular graphics will be used to study structural geometry, potential energy surfaces, energy gradients, bond energies, and bond angles. Confirmational analyses will be performed to gain a practical understanding of the advantages and limitation of molecular modeling. 64-72 hours lecture and 48-54 hours laboratory.

CHEM 255 Quantitative Analysis
(CAN CHEM 12) 4.0 Units
Quantitative, gravimetric, volumetric, and instrumental methods of analysis. Stoichiometric calculations and applications of principles of chemical equilibrium to analytical problems. Laboratory accuracy required. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Summer. (Prerequisite: CHEM 202 or year course in General Chemistry)

CHEM 281 Organic Chemistry 5.0 Units
The chemistry of aliphatic and aromatic hydrocarbons with emphasis on material fundamental to biochemistry. Modern concepts of chemical bonding, molecular reactions, structure, nomenclature, principles of stereo-chemistry, mechanisms, and synthetic pathways. Laboratory techniques include isolation, separation, purification, spectroscopy, and chromatographic analysis of organic compounds. 48-54 hours lecture and 96-108 hours laboratory. CSU, UC (UC credit limitation). Offered Fall. (Prerequisite: CHEM 202)

CHEM 282 Organic Chemistry 5.0 Units
Principles and experimental techniques developed in CHEM 8A are extended to include synthesis and identification, nomenclature, derivatives, spectroscopy, and reactions of functional groups, heterocycles, and aromatic compounds. Biochemistry of carbohydrates, lipids, proteins, nucleic acids, and other biologically significant compounds is also examined. 48-54 hours lecture and 96-108 hours laboratory. CSU, UC. Offered Spring. (Prerequisite: CHEM 281)

CHILD DEVELOPMENT

CHDV 100 Child Growth and Development
(formerly CHDV 146) 3.0 Units
A study of the child from conception through adolescence. It addresses cognitive, physical, and social emotional development. Guidance for the developmental stages is included. 48-54 hours lecture. CSU,UC. Offered Fall, Spring. (No prerequisite.)

CHDV 106 Child, Family and Community 3.0 Units
The scientific study of societal institutions which socialize the child, such as the family, school, peer group, community and media within the context of culture, religion, economics, politics and change. Major theoretical perspectives will be examined. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite) This course may be taken two times.

CHDV 110 Principles and Practices 3.0 Units
This course provides an introduction to the critical principles and practices of the field of early childhood education. Emphasis is placed on introducing students to interaction strategies that build meaningful relationships, provide for guidance and discipline, and support play and exploration. Students will consider developmental theory and its implications on interaction through play and relationships. The course will provide a brief overview of the field of early childhood education, and introduce students to developmentally appropriate practices of observation, assessment and curriculum planning. 48-54 hours lecture. CSU. Offered Fall, Spring. (No prerequisite.)

CHDV 111 Infant and Toddler Caregiving 3.0 Units
A study of the physical, perceptual, socio-emotional, cognitive development and behavior of the young child from birth to age three. Emphasis will be on the translation of theories of development to appropriate practices in the caregiving environment. 48-54 hours lecture. CSU. Offered Fall, Spring. (No prerequisite) This course may be taken two times.

CHDV 115 Family Child Care Provider 3.0 Units
This course will address the many factors involved in providing quality child care in one's home. This course will cover how to set up a safe, healthy and stimulating environment that meets the developmental needs of the diverse ages served in family day care homes. Providers will develop or refine their business policies and procedures, parent contracts, and personal philosophy and goals. Additionally, training in preventive health practices will enable providers to partially fulfill AB 243 requirements. 48-54 hours lecture. CSU (No prerequisite. Grade option.) This course may be taken two times.

CHDV 132 Montessori Methods of Education 3.0 Units
This course is designed to introduce the student to Dr. Montessori's life, work, philosophy of education and classroom design. This will be accomplished through lecture, reading and exploration of her materials designed specifically for the education of the young child. Students will be exposed to a variety of such materials and will create materials to use in his/her own classroom. 48-54 hours lecture. CSU. (No prerequisite. Grade option.)

CHDV 133 Art Experiences for Young Children 3.0 Units
This curriculum course prepares students to support the young child's creative development. Students will select, develop, and present art materials and activities for young children. An understanding of appropriate developmental art experiences and the creative process will be stressed. Emphasis is placed on developing a classroom environment that promotes creative expression. 48-54 hours lecture. Offered Fall. (No prerequisite) This course may be taken two times.

CHDV 134 Language and Early Literacy Development 3.0 Units
This course will focus on the young child's language acquisition and early literacy development. Emphasis will be on introducing students to developmentally appropriate activities and practices, which will foster language and early literacy. The course will allow students to develop curriculum materials. It will satisfy the program/curriculum requirement for licensing and credentialing. 48-54 hours lecture. CSU. Offered Spring. (No prerequisite) This course may be taken two times.

CHDV 137 The Child with Special Needs 3.0 Units
This course will provide the history of special education in the early childhood setting including an overview of legislation, assessment, curriculum development, and environmental issues. Students will identify the interrelationships of family, communities, and the early childhood educators. 48-54 hours lecture. CSU. Offered Spring. (No prerequisite) This course may be taken two times.

CHDV 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

CHDV 141 Basics of School-Age Child Care 3.0 Units
An introduction to appropriate practices in school-aged programs and curriculum based upon knowledge of the social, emotional, physical, and cognitive development of the child ages six to twelve. Exploration of curriculum units that include creative art, music, and literature. 48-54 hours lecture. CSU. (No prerequisite) This course may be taken two times.

CHDV 142 Child Health, Safety, and Nutrition 3.0 Units
This course introduces the basic concepts of health, safety and nutrition which promote optimal health and positive attitudes toward wellness in the growing child at home and at school. Included will be identification and prevention of health problems; practical aspects of developing safe and healthy environments; and promoting good nutrition and food habits. 48-54 hours lecture. CSU. Offered Fall, Spring. (No prerequisite) This course may be taken two times.

CHDV 143 Introduction to the High/ Scope Curriculum 3.0 Units
This course provides students with a working knowledge of the High/Scope curriculum model. This model stresses an active learning classroom based upon Jean Piaget's theories of child development. Course will cover origins of model, classroom arrangement, curriculum, adult/child interaction and observation techniques. 48-54 hours lecture. CSU. (No prerequisite) This course may be taken two times.

CHDV 144 Math and Science Experiences for Young Children 2.0 Units
This class will focus on the preschool child's acquisition of science and mathematical concepts. Emphasis will be on introducing students to developmentally appropriate activities and practices which will foster development in these areas. This course will also focus on the teacher's (adult) role in establishing an environment rich in opportunities for self-directed activities and will assist teachers in developing science and math materials and activities. 32-26 hours lecture. CSU. Offered Spring. (No prerequisite) This course may be taken two times.

CHDV 145 Music and Movement Experiences For Young Children 2.0 Units
This course will introduce students to gross motor development in the early years and provide instruction on how to facilitate this development with movement activities. This course will also focus on musical activities and experiences through which children develop appropriate skills, concepts and attitudes. Students will select, develop and present music/movement activities leading to a comprehensive file of classroom activities to be implemented in one's own early childhood setting. 32-36 hours lecture. CSU. Offered Fall. (No prerequisite) This course may be taken two times.

CHDV 148 Special Topics
See Special Topics listing (Variable units). CSU

CHDV 149 Independent Study
See Independent Study listing (1-3 units). CSU

CHDV 150 Introduction to Curriculum 3.0 Units
The study and application of curriculum design principles for early childhood educational programs. Course includes planning and evaluating developmentally appropriate activities and experiences that promote physical cognitive, creative, social and emotional growth in children. Planning a comprehensive unit of study is also included. 48-54 hours lecture. CSU. (No prerequisite. Eligibility for ENGL 50 or ENGL 101.0 recommended.)

CHDV 160 Observation and Assessment 3.0 Units
This course offers an in-depth study of current observation and assessment approaches to understand and articulate development in children birth through age 8. Guided by developmental theory, students will learn how observation and assessment influence the design of early childhood settings, understanding and guiding child behavior, curricular plans, communication with families, and support program quality. Student must be aware that homework for this course involves observing children in a variety of settings. TB clearance advisory. 48-54 hours lecture. CSU. (No prerequisite. Successful completion of ENGL 50 or ENGL 101.0 and CHDV 100 recommended.)

CHDV 200 Teaching In A Diverse Society 3.0 Units
This course is designed to help students become teachers who can explore and address diversity in ways that enhance the development of children in early childhood settings. It will address attitudes and behaviors toward others in the areas of culture, race, gender, age and abilities; the development of an anti-bias curriculum; the analysis of the classroom environment for culturally relevant and diverse materials and resources; as well as highlighting developmental issues and advocacy. 48-54 hours lecture. CSU. (No prerequisite. Eligibility for ENGL 50 or ENGL 101.0 recommended.)

CHDV 210 Practicum 4.0 Units
(formerly CHDV 127B)
This course focuses on the integration and application of child development theory to facilitate learning among young children. Students will complete 108 lab hours of supervised field experience at the campus Child Development Center or with an approved mentor teacher in the community. Emphasis is placed on developing effective teaching strategies, curriculum planning based upon observation and assessment, discipline and guidance techniques, cooperative relationships with staff and families, professional ethics and assessment of one's own professional competence. Current (within a year) medical verification of absence of tuberculosis (TB). 32-36 hours lecture and 96-108 hours laboratory. CSU. Offered Fall, Spring. [No prerequisite. Recommend successful completion of ENGL 50 OR ENGL 101.0; CHDV 100; CHDV 110; CHDV 150; CHDV 160; up to date TB clearance (within one year)]

CHDV 220 The Mentor Teacher / Adult Supervision 2.0 Units
A study of the methods and principles of supervising adults in early childhood programs. Emphasis is placed on the role of experienced classroom teachers/supervisors who function as Mentors to teachers while simultaneously addressing the needs of children, parents and other staff. 32-36 hours lecture. CSU. (Prerequisites: CHDV 106 and CHDV 100, or equivalent, with a grade of "C" or better.) This course may be taken two times.

CHDV 239 Administration of Children's Programs I 3.0 Units
This course focuses on funding, licensing, planning, organizing, and managing a variety of programs for young children. The administrator's role, site development, on-going organization, and working with the parents and volunteers explored. This course is designed to fulfill three of the six semester units of administration required for the site supervisor permit. 48-54 hours lecture. CSU. [Prerequisite: Completion of the State Department of Health required core courses (CHDV 106 and CHDV 100 or equivalent.) Currently working in the field recommended.]This course may be taken two times.

CHDV 240 Administration of Children's Programs II 3.0 Units
This course explores the human relations aspect of administering children's programs. The emphasis will be placed on leadership styles, communication strategies, and promoting a positive climate for staff and children. This course is designed to fulfill three of the six semester units of administration required for the Site Supervisor Permit. 48-54 hours lecture. CSU. [Prerequisite: Completion of the State Department of Health required core courses (CHDV 106 and CHDV 100 or equivalent.) Currently working in the field recommended.]

COMMUNICATION STUDIES

CMST 105 Intercultural Communication 3.0 Units
A course designed for the student to learn relevant intercultural communication elements, factors, and theories. Students will learn and be evaluated on: describing their cultural roots, creating an identity collage, defining worldview and cultural values, analyzing an intercultural encounter, describing an intercultural communication context, and exploring a specific intercultural topic. Students will demonstrate proficiency in the above through exams, individual and group presentations, and essays. 48-54 hours lecture. CSU,UC. (No prerequisite.) This course may be taken two times.

CMST 106 Interpersonal Communication
(CAN SPCH 8) 3.0 Units
A course which examines human communication theory and principles across a variety of contexts. The course emphasizes analysis of communication variables as well as skill development and application. 48-54 hours lecture. CSU, UC. (UC credit limitation). Offered Fall, Spring, Summer. (No prerequisite)

CMST 107 Family Communication 3.0 Units
An introduction to human communication in the setting of the family. The goal is to help the student understand how, through communication, people develop, maintain, enhance, or destroy family relationships. Students will study variables and the process of communication as they affect the interaction of their families and develop insight that will make it possible to apply this knowledge. 48-54 hours lecture. CSU. Offered Fall, Spring, Summer. (No prerequisite)

CMST 108 Group Discussion
(CAN SPCH 10) 3.0 Units
Practical application of the processes involved in group discussion with an emphasis on problem solving and decision making. Attention to structured and unstructured situations. Principles applicable to groups found in schools, businesses, professions, and the family. Development of interpersonal skills for thoughtful participation in a democratic society. 48-54 hours lecture. CSU, UC. (UC credit limitation). Offered Fall, Spring. (No prerequisite)

CMST 109 Public Speaking
(CAN SPCH 4) 3.0 Units
A course designed for the student to learn how to prepare, organize, and deliver public speeches. Students will learn and be evaluated on: constructing a speaking outline, analyzing an audience, adapting to the occasion, and using effective speaking delivery techniques. Students will demonstrate proficiency in the above through the delivery of speeches in the classroom. 48-54 hours lecture. CSU, UC.. Offered Fall, Spring, Summer. (No prerequisite. Grade option)

CMST 120 Introduction to Interpreting 4.0 Units
This course introduces the field of American Sign Language interpreting and includes models of interpreting, ethical principles, and its history and development in modern times. Attention will be given to the development of necessary processing skills for consecutive interpretation. 64-72 hours lecture. CSU, UC. (Prerequisite: CMST 125. Grade Option.) This course may be taken four times.

CMST 121 Fingerspelling 1.0 Unit
An introductory course that teaches the student the appropriate application of fingerspelling and its production. The course will include strategies for improvement. Also included will be the articulation of loan signs and one to three digit numbers. Emphasis on both receptive and expressive fluency. 16-18 hours lecture. CSU. (No prerequisite) This course may be taken three times.

CMST 122 American Sign Language I 4.0 Units
An introduction to American Sign Language as it is used within deaf community. Students will study the basic structure and development of the language as well as Deaf Culture. Emphasis is placed on both receptive and expressive skills. 64-72 hours lecture. CSU, UC. (No prerequisite) This course may be taken two times.

CMST 123 American Sign Language II 4.0 Units
A continuation in the study of American Sign Language as it is used within the Deaf Culture. Instruction is provided in the basic structure of the language. Emphasis is placed on both receptive and expressive skills. 64-72 hours lecture. CSU, UC. (Prerequisite: CMST 122) This course may be taken two times.

CMST 124 American Sign Language III 4.0 Units
Continuation of development of skill in American Sign Language with emphasis on an intermediate level of comprehension and expression. Students will progress in their study of the structure and grammar of American Sign Language as well as Deaf Culture. Emphasis is placed on both receptive and expressive skills. 64-72 hours lecture. CSU, UC. (Prerequisite: CMST 123) This course may be taken two times.

CMST 125 American Sign Language IV 4.0 Units
A continuation in the study of American Sign Language and the Deaf Community including its history and culture. Emphasis will be on receptive and expressive skills as they relate to narrating life events. Students will learn techniques such as role-shifting, use of space and classifiers in addition to appropriate non-manual behaviors. This course will prepare the student for entrance into an interpreter training program. 64-72 hours lecture. CSU. (Prerequisites: CMST 124) This course may be taken two times.

CMST 128 Special Topics
See Special Topics listing (Variable units). CSU, UC

CMST 129 Independent Study
See Independent Study listing (1-3 units). CSU

COMPUTER INFORMATION SYSTEMS

CIS 50 Computer Ethics 2.0 Units
This course is an introduction to the theories and issues of ethical behavior as applied to the exigencies of a rapidly changing, information-oriented, computer-driven society. Topics include ethical history, philosophies, and issues at the responsibility level of both corporate business and the individual. Various ethical theories are introduced and discussed. Numerous current and past case histories are presented. 32-36 hours lecture. (No prerequisite)

CIS 56 Project Management 3.0 Units
This course will provide the student with the skills necessary to manage projects using Microsoft Project. The student will be introduced to Gantt and PERT charts, the concept of a critical path, resource scheduling and leveling, and other concepts used in managing large projects. Efficient use of resources, people and equipment, will be emphasized. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken two times.

CIS 64 Computer Mathematics 3.0 Units
Computer mathematics for the computer science major. Introduction to number bases, set theory, Venn diagrams, logic, Boolean algebra, algebraic expressions, exponents, linear and quadratic equations, matrices, mathematical sequences and series, linear programming and logarithmic functions. 24-27 hours lecture and 48-54 hours laboratory. Offered Fall. (No prerequisite.) This course may be taken two times.

CIS 67 Fundamentals of Networking 3.0 Units
This course presents a broad overview of the fundamentals of networking computers. It discusses in some detail the various network topologies, architectures, industrial standard, standards-defining organization, and the practical use of networks. This course is designed to prepare students to take the Network+ certification exam from CompTIA. 32-36 hours lecture and 48-54 hours laboratory OR 96-108 hours individualized instruction. (No prerequisite. Recommended preparation: CIS 101.) This course may be taken four times.

CIS 72 Novell NetWare 6 Basic Administration 2.5 Units
This course provides instruction on the fundamentals of system administration for NetWare 6x. It is designed to provide students with the necessary knowledge and skills to perform competently in the role of network administrator or system manager. Students completing this course will be able to accomplish basic and fundamental network management tasks in a NetWare 6x environment. This course is highly recommended for those seeking the Certified NetWare Engineer certification from Novell Corporation and for new NetWare 6x administrators. 24-27 hours lecture and 48-54 hours laboratory OR 80-90 hours individualized instruction. (No prerequisite) This class may be taken four times.

CIS 75 Introduction to Network Security: Network+ 3.0 Units
Presents security topics covering general security concepts, communications security, infrastructure security, basics of cryptography, operational and organizational security. Topics include hacking, viruses, cryptography, detection and prevention on both wired and wireless LANs. 32-36 hours lecture and 48-54 hours laboratory OR 96-108 hours individualized instruction. (No prerequisite) This class may be taken four times.

CIS 79 Novell Directory Services Design and Implementation 2.5 Units
This course teaches network administrators, network designers, and networking consultants the skills needed to create a Novell Directory Services (NDS) design and implementation strategy. Students will complete an NDS design and strategy implementation schedule using templates that can be reused to create a design for their workplace. 32-36 hours lecture and 24-27 hours laboratory. CSU (Prerequisite: CIS 72) This course may be taken four times.

CIS 80 Operating Systems: Mac OS X 3.0 Units
This course introduces the Mac OS X operating system. Topics include the graphical user interface, OS X preferences, account management, spotlight, disk management, printing, networking, program installation and removal, system security, email, Internet access, display management, address book, calendaring, voice over IP, instant messaging, quicktime, and support. 32-36 hours lecture and 48-54 hours laboratory. (No Prerequisite) This course may be taken four times.

CIS 81 iLife Applications 3.0 Units
This course is designed for the beginning Apple user who wants to get the full use out of their computer's capability to create, modify and design digital images, music, videos (home movies) and podcasts. 32-36 hours lecture and 48-54 hours laboratory. (No Prerequisite) This course may be taken four times.

CIS 83 Programming in Python 4.0 Units
Python is a popular programming language that has taken a primary role in many companies including NASA, Google, Industrial Lights and Magic. Python uses an elegant syntax, making the programs easier to write and read, which also makes it an ideal language for beginning programmers. The foundation that students achieve can be applied to digital animation programs, and game programming. No prior programming experience is assumed. 48-54 hours lecture and 48-54 hours laboratory. (No Prerequisite) This course may be taken two times.

CIS 90 Introduction to the Unix Operating System 4.0 Units
This course introduces the Unix and Linux operating systems. Topics include the history of Unix, commands and utilities, file system structure, shells, graphical user interfaces, networking, text editing and shell programming. 48-54 hours lecture and 48-54 hours laboratory. (No Prerequisite) This course may be taken four times.

CIS 91A MySQL Admin A 2.0 Units
This course is designed to provide students with an introduction to the MySQL relational database management system. Students will learn how to design, install, configure and secure MySQL databases. The student should have prior experience with the fundamentals of databases. 24-27 hours lecture and 24-27 hours laboratory. (No Prerequisite)

CIS 91B MySQL Admin B 2.0 Units
This second course in MySQL database administration is designed to provide students with an advanced approach to current database administration issues in enterprise level databases. Topics include: transactions, multiple servers, replication, locking and administration interfaces. 24-27 hours lecture and 24-27 hours laboratory. (No Prerequisite) This course may be taken two times.

CIS 93 Perl 4.0 Units
This course is designed to provide students with an understanding of the Perl scripting language used in Unix and Linux systems. Students will learn how to design and implement dynamic scripts through strings, operators, variables, arrays, control structures, expressions, functions, file handles and database access controls. 48-54 hours lecture and 48-54 hours laboratory. (No Prerequisite) This course may be taken four times.

CIS 94 PHP Programming 4.0 Units
This course is designed to provide students with an introduction to programming web-based applications using PHP. Students will learn how to design, code and implement dynamic web sites. This course will move the student from an understanding of XHTML to the development of powerful web applications that can be deployed over the Internet. 48-54 hours lecture and 48-54 hours laboratory. (No Prerequisite) This course may be taken two times.

CIS 95 PHP+MySQL Web Application 4.0 Units
This course focuses on providing students experience with advanced programming of web-based applications using PHP+MySQL. Students will learn how to design, code and implement data driven web sites. This course will move the student from an understanding of PHP (Hypertext Preprocessor) to the development of powerful web applications that can be deployed over the Internet or the intranet. 48-54 hours lecture and 48-54 hours laboratory. (No Prerequisite) This course may be taken two times.

CIS 96A Structured Query Language 2.0 Units
This is the first of two courses in Structured Query Language using the MySQL database management system. Topics include concepts of relational databases and SQL, creating and using databases and performing queries. 24-27 hours lecture and 24-27 hours laboratory. (No Prerequisite) This course may be taken two times.

CIS 96B Structured Query Language 2.0 Units
This is the second course in Structured Query Language using the MySQL relational database management system. Topics include: Joins, IF/Case statements, indexing, batch operations and locking strategies. 24-27 hours lecture and 24-27 hours laboratory. (No Prerequisite) This course may be taken two times.

CIS 97 XML (Extensible Markup Language) Programming 4.0 Units
This course introduces students to the foundations that comprise the XML family of technologies. Topics include: well-formed XML syntax rules; validation of XML using DTDs and Schemata; introductory DOM and SAX Scripting; creating XML data islands on XHTML pages; using CSS, XSL, XSL-FO and XSLT to style XML content; move data to/from databases using XML; and several advanced topics. 48-54 hours lecture and 48-54 hours laboratory. (No Prerequisite) This course may be taken five times

CIS 101 Computer Literacy 4.0 Units (CAN CSCI 2)
This is a survey course which provides an overview of computer technology for multi disciplinary majors. Using laboratory projects supported by the lecture, the student gains “hands- on” familiarity with different operating systems, word processors, spreadsheets, database management systems, programming, networks and the use of the Internet (or the Information Superhighway). 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite)

CIS 104 Object-oriented Analysis and Design 3.0 Units
This is a first course in the object-oriented modeling and design, a new way of thinking about problems using models organized around real-world concepts. The fundamental object-oriented construct is the object, which combines both data structure and behavior in a single entity. Object-oriented models are useful for understanding complex problems, communicating with application experts, modeling enterprises, preparing documentation, and designing programs and databases. This course is a prerequisite to all object-oriented programming language courses for it provides a requisite baseline working knowledge of unique object-oriented concepts and structure such as classes, objects and methods, encapsulation, inheritance, polymorphism and message abstraction, and static virtual methods. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite, Grade Option)

CIS 105 Introduction to Systems Analysis 3.0 Units
Introduces the three major skills required to perform effectively as a beginner in a systems analysis environment. Defines the specific steps in the determination of new systems’ requirements, system design, and the creative process used to select and make recommendations as to one or more solutions to system development. 48-54 hours lecture. CSU. Offered Spring. (No prerequisite)

CIS 106 Introduction to Computer Technology for Educators 4.0 Units
A survey course which provides an overview of computer technology for multi-disciplinary majors, but with emphasis on its role in educational settings. The course provides instruction in a variety of topics supported by hands-on laboratory work with operating systems, word processing, spreadsheets, databases, desktop publishing, programming, networks, and the Internet. Application and evaluation of computer technology in learning environments serves as the overall framework. See cross listing for ETEC 106. 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite)

CIS 107 Introduction to The Internet for Educators 2.0 Units
A course for education students or current teachers to acquire the skills needed to effectively utilize the Internet in the classroom. Emphasis will be placed on computer-mediated communication with the World Wide Web. Students will become well versed in the use of Web browsers, FTP, newsgroups/asynchronous discussion, e-mail, and chat/synchronous discussion. See cross listing for ETEC 107. 24-27 hours lecture and 24-27 hours laboratory. CSU (No prerequisite)

CIS 108 Assembly Language Programming 2.0 Units (CAN CSCI 10)
Designed to train students to prepare and write the basic assembly language programs for microcomputer systems in both business and scientific applications. 16-18 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Spring. (No prerequisite) This course may be taken four times.

CIS 111 Multimedia Presentations 4.0 Units
Students gain experience in developing multimedia presentations while gaining an understanding of multimedia technologies. In acquiring "hands-on" experience in producing and presenting multimedia presentations, the student will also actively create audio files, full-motion, video clips, graphics, animation sequences, and the text used in the final production. Additional subjects which will be covered include the basic principles for effective communications, scripting, logical control of peripheral devices, and runtime packaging. 48-54 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite) This course may be taken two times.

CIS 120 Introduction to Macromedia Dreamweaver 4.0 Units
This course teaches students how to use the web-authoring tool Dreamweaver. Covered topics include Dreamweaver basics, website set-up, animation, multi-media, and more. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option.) This course may be taken two times.

CIS 121 Introduction to Flash 4.0 Units
Flash is an advanced tool for creating graphics, animation, multimedia components that can be incorporated into other software applications such as web pages, or can function on their own. This is a beginning course on Flash. It teaches students the Flash basics, graphics, texts, layers, symbols, frames, animations, tweens, interactivity, action scripts, etc. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option.) This course may be taken two times.

CIS 124 Fundamentals of Data Communications 2.0 Units
This course presents the general computer user with a basic understanding of data communications with added emphasis on telecommunications. The course includes analog and digital transmission concepts, networks, protocols, operating systems, local area networks (LANs), network architectures, network topologies, security, error detection and correction codes. 32-36 hours lecture. CSU. (No prerequisite)

CIS 136 Introduction to the Internet 2.0 Units
This course of instruction is designed for the student or savvy business person who wants to acquire the skills needed to effectively interact and utilize the resources of the Internet and its newer component, the World Wide Web (WWW). By completing this course, a student will become well versed in the understanding and using of browsers and viewers, FTP (File Transfer Protocol), news groups, e-mail, and chat/conversation utilities. They will also be made aware of some of the other concerns relating to using the Internet, such as privacy and security issues. 24-27 hours lecture and 24-27 hours laboratory. CSU. (No prerequisite)

CIS 137 Introduction to HTML 2.0 Units
This course is designed for the student or business person who wants to acquire the skills needed to create a presence on the WWW (World Wide Web) in the form of a Web Page. The student will become conversant with HTML (Hypertext Mark-up Language) and able to use HTML for Web Authoring (designing, implementing, and maintaining). Several tools will be explored, such as but not limited to, text editors, WYSIWYG (what you see is what you get) editors, and tag editors. 24-27 hours lecture and 24-27 hours laboratory. CSU. (No prerequisite.)

CIS 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

CIS 139 Windows For Power Users 4.0 Units
Students will gain experience in installing, navigating, configuring, optimizing, troubleshooting, and customizing the current version of Windows. Additional subject which will be covered include networking, disk management, diagnostics and using the Internet. 48-54 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Recommended preparation: CIS 101.) This course may be taken five times.

CIS 201 C++ Module A 4.0 Units
An introduction to programming using the C++ language. This course is appropriate for those wishing to learn the principles of computer programming and to gain some initial experience with C++. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (No Prerequisite. CIS 101 recommended)

CIS 202 C++ Module B 4.0 Units
The second in the C++ series, this course teaches the student who is familiar with the language how to use its object-oriented features in depth. Subject matter includes: designing and implementing classes, abstract data types, overloading operators, inheritance, and polymorphism. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. (Prerequisites: CIS 201 with a minimum grade of "C")

CIS 205 JavaScript 4.0 Units
JavaScript is the only wide-spread programming language for web pages on virtually all browsers. By incorporation JavaScript into HTML documents, web page contents become dynamic, personalized and interactive. Even with server-side technology, such as ASP.NET and PHP, JavaScript is still a must since many features such as mouseover, etc., are not supported by any server-side programming. This course teaches students how to program using JavaScript from the beginning; it also prepares students for more advanced web development courses including ASP.NET and PHP. 48-54 hours lecture and 48-54 hours laboratory. CSU

CIS 206A Programming JAVA Module A 2.0 Units
This is an introductory course for programming in Java. The course will cover the basics of the Java programing language and object oriented programming method. Some of the more advanced topics such as applets programming data structure implementation in Java will also be covered. 24-27 hours lecture and 24-27 hours laboratory. CSU. (No prerequisite) This course may be taken four times.

CIS 206B JAVA Programming B 2.0 Units
This is a second course in Java programming. The course will review the basics of the Java language and object oriented programming. The main topics of the course include Java applet programming and networking with Java. 24-27 hours lecture and 24-27 hours laboratory. CSU. (Prerequisite: CIS 206A with a minimum grade of "C", Grade Option.)

CIS 210 Programming in Visual Basic 4.0 Units
Visual Basic is the world's most popular programming language used for application development. This course is based on the latest VB.NET. VB is an object-oriented programming language suitable not only for Windows applications, but also for Web applications. While retaining its advantages in ease of learning, efficiency at developing sophisticated applications, VB.NET has now added an array of powerful features such as Web forms, mobile controls, support for XML, full compatibility with other languages (such as C#, Visual C++, Cobol, NET), etc. Students will learn all the programming basics using VB.NET, as well as being exposed to topics such as Object-Oriented programming, Database programming, and Web programming. 48-54 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite.) This course may be taken four times.

CIS 211A Advanced VB Programming Module A: Advanced Topics 4.0 Units
This is an advanced programming course using VB.NET. The course focuses on developing Object-Oriented applications using the latest Microsoft .NET technology. Topics covered include .NET Framework and CLR, class implementation, inheritance, polymorphism, exception handling, multithreading, developing custom controls for Windows forms and Web forms, etc. 48-54 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CIS 210. Recommended: CIS 104) This course may be taken three times.

CIS 211B Advanced VB Programming Module B: Database Programming 4.0 Units
This is an advanced programming course using VB.NET. The course focuses on developing desktop/Web applications using Microsoft's new ADO.NET technology. ADO.NET, based on XML, provides platform interoperability and scalable data access. Topics covered include the .NET Framework, ADO.NET, SQL, DataSet, XML, ADO.NET classes libraries, Web Services, etc. 48-54 hours lecture and 48-54 hours laboratory. CSU (Prerequisites: CIS 210 and CIS 280, or equivalent) This course may be taken three times.

CIS 211C Advanced VB Programming Module C: Web Programming 4.0 Units
This is an advanced programming course using VB.NET. The course focuses on developing Web applications using Microsoft's ASP.NET technology. ASP.NET is a powerful server-based technology, designed to create dynamic Web sites and Web-based distributed applications, or corporate intranet applications. Topics covered include the .NET Framework, ASP.NET class libraries, Web forms, ASP.NET Server controls, ASP.NET Data Access. XML and Web Services, ASP.NET mobile controls, etc. 48-54 hours lecture and 48-54 hours laboratory. CSU (Prerequisites: CIS 210 and CIS 205, or equivalent. Recommended: CIS 261 and 262) This course may be taken three times.

CIS 240A Windows Vista Professional 4.0 Units
An introduction to operating system design and operation using Windows Vista Professional version. Topics include: the design and philosophy of the Windows vista operating system, the differences between various Windows Vista versions, user issues in Windows Vista such as using Vista's Graphical User Interface, and basic installation issues. Emphasis will be given to comparing Windows Vista Workstation and Windows 2003 Server. Hands-on experience will be stressed. 48-54 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 101 or equivalent) This course may be taken three times.

CIS 240B Introduction to Microsoft Windows 2003 Server Administration 4.0 Units
Students will learn how to administer a Windows NT Server system on a network. Topics include: installation, user management, security, performance issues, domains, World Wide Web and related services, using NT and other network operation systems, network printing, the NT registry, backups, and setting up applications. 48-54 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CIS 240A or equivalent). This class may be taken four times.

CIS 252 NetWare 6 Advanced Administration 2.5 Units
Learn the advanced skills involved in the administration of NetWare networks, including improving the performance of your network and server, managing Novell Directory Services (NDS) partitioning and replication, time synchronization strategies, and integrating NetWare 4 and NetWare 3. It is one of seven courses needed for CNE certification. 32-36 hours lecture and 24-27 hours laboratory. CSU. (Prerequisite: CIS 72 or equivalent) This course may be taken four times.

CIS 261 UNIX System Administration A 2.0 Units
UNIX system administrators are responsible for the operation of UNIX systems—the most common server platform on the Internet. Learn how to setup, manage, and maintain UNIX systems. Topics include: the role of the system administrator in an organization, UNIX variants, installation, booting and shutting down, backups, managing users. 16-18 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 123 or equivalent)

CIS 262 UNIX System Administration B 2.0 Units
This second UNIX system administration course covers advanced UNIX administration topics, including system security, setting up and managing Internet services such as Hypertext Transfer Protocol, File Transfer Protocol, and e-mail. 16-18 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite.) This course may be taken five times.

CIS 280 Fundamentals of Database Management Systems 3.0 Units
This course provides an in-depth knowledge of several different database management systems (DBMS) and an understanding of the basic relational, network, or hierarchical database structures which they use. Issues of privacy, security, protection, integrity, redundancy, distributed database concepts, data manipulation and query languages are covered. Students will learn how these concepts and facilities are implemented on common microcomputer-based DBMS products and will learn "hands-on" how these common features are implemented in a variety of such products. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite)

CIS 281 Database Management 4.0 Units
This course teaches students the concepts and implementation of a relational database model and object-oriented database model. This course covers the common languages used for data manipulation and information retrieval. The course is a practical approach to train students to analyze design and create databases for businesses and organizations. 48-54 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CIS 280 or equivalent)

CIS 287A Structured Query Language A 2.0 Units
First module of manipulating data and databases using Structured Query Language (SQL). Topics include concepts of databases and SQL, creating and using databases, and performing queries. 16-18 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 280 with a minimum grade of "C")

CIS 287B Structured Query Language B 2.0 Units
The second course teaching the management of data and databases using Structured Query Language (SQL). Topics include: working with multiple tables, data normalization, views, indexes, dealing with data problems, and improving the performance of data manipulation. 16-18 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 287A with a minimum grade of "C")

CIS 288A Oracle A 2.0 Units
An introduction to using the Oracle relational database management system. This is the first of two modules. Topics include the structure, nature, and use of databases, working with database projects, dealing with the various data types, and querying databases. 16-18 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 280; Recommended: CIS 281)

CIS 288B Oracle B 2.0 Units
(formerly CIS 47B)
This second course on Oracle continues instruction on the Oracle relational database management system. Topics include using database administration tools, querying databases, keeping data safe and secure, and using databases in group environments. 16-18 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 288A or equivalent)

CIS 290A MS SQL Server Administration A 2.0 Units
The MS SQL Server is Microsoft's database server software. This course teaches students how to administer the database system using MS SQL Server. This course discusses the basics of client/server database computing, the planning and installation of SQL Server, and normal operation of SQL Server. 16-18 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 280 with a minimum grade of "C". Recommended Preparation: CIS 281)

CIS 290B MS SQL Server Administration B 2.0 Units
The MS SQL Server is Microsoft's database server software. This course is the continuation of CIS 290A. It will review the basic features of SQL Server administration and then focus on advanced topics of using SQL Server such as performance and tuning. 16-18 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIS 290A with a minimum grade of "C")

COMPUTER INTEGRATED DESIGN AND GRAPHICS

CIDG 50 Drafting Laboratory 1.0-4.0 Units
Drafting laboratory provides the additional time, equipment, and instruction necessary to develop problem solving, board or AutoCAD skills at each individual's own pace. 48-54 hours of laboratory required for each unit. (No prerequisite. Grade Option.) This course may be taken two times.

CIDG 65 3ds Max Advanced Effects and Compositing 3.0 Units
Students will learn advanced concepts and procedures required for creating high quality 3D special effects. Topics will include particle systems, space warps, and reactor. Rendering techniques incorporating depth of field, motion blur, and anti-aliasing filters will also be discussed. Alpha channel compositing techniques will be addressed in detail. Students will also explore and analyze relevant issues pertaining to the computer animation industry. 32-36 hours lecture and 48-54 hours laboratory. (Prerequisite: CIDG 260. Grade Option.) This course may be taken four times.

CIDG 70 Design for Graphic Artists 3.0 Units
This course covers the fundamental elements and principles of design. This course uses demonstration of the fundamentals through assignments and projects. Emphasis will be placed on developing techniques and vocabulary that will enable the student to problem solve and communicate ideas, concepts and solutions. Students will also learn how to properly critique design. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

CIDG 71 Survey of Computer Graphics Studio 4.0 Units
This course will introduce students to industry standard software packages used in visual communications. Students will be instructed on the basic use of draw, paint/photo, layout, multimedia, web and digital video applications. Topics covered include: Operating systems basics, drawing and painting on the computer, digitizing and editing sound and video and designing for interactivity. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

CIDG 72 Computer Illustration 3.0 Units
This course covers the fundamental elements of illustration including history, design, color theory and appropriateness for specified use in the graphics industry. Students will create a series of illustrations using software techniques and skills developed through lectures, demonstration and assigned projects. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option) This course may be taken four times.

CIDG 73 Typography and Layout 3.0 Units
In this course students will learn how to use type as a graphic design element using industry standard techniques and tools. Students will strengthen their use of type as a design element through a variety of projects ranging from elementary exercise to intermediate presentations. In addition, students will examine the history of type and typesetting, modern methodologies, principles and aesthetics of good typographic design. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

CIDG 75 Page Layout and Design 3.0 Units
This course introduces students to the computer as a page layout and design tool. Emphasis will be on using industry standard software to simplify the paste-up and pagination process when producing multi-page printed materials. Students will learn the terminology and techniques of page layout so that they may communicate within the industry. Class projects will develop the ability to work as a team to produce printed materials within time and technical constraints. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

CIDG 77 Print Production Processes 3.0 Units
A study of the processes used in the printing industry. Emphasis will be placed on terminology, practices, and techniques for effective communication with printing professionals. Class projects will develop the students' ability to design within the necessary parameters. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

CIDG 79 Multimedia and Web Design 4.0 Units
This course teaches graphic artist the tools and procedures for designing graphics for the computer screen. This course will give an overview of standard industry software used for creating multimedia presentation and web pages. This course does not focus on HTML or scripting language but is focused on the development of the visual content. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option) This course may be taken four times.

CIDG 90 Fundamentals of Architecture and Structural Engineering 3.0 Units
This course covers the fundamentals of architecture design and structural engineering with an emphasis on structural calculations. These fundamentals include the requirements for building plans and the most recent Title 24 Energy code and the names and explanations of construction hardware. Structural calculations are performed using the MaxQuake and the MaxBean software programs. 48-54 hours lecture. (No prerequisite. Recommended preparation: Students will need to have working knowledge of AutoCAD [preferably two semesters]. Grade Option.) This course may be taken three times.

CIDG 101 Introduction to Drafting 3.0 Units
This survey course will explore the basic techniques used in the drafting industry. The course will emphasize proper use of instruments, lettering, and line quality. Course includes work in the fields of architectural, mechanical, and computer aided drafting. 32-36 hours lecture and 48-54 hours laboratory. CSU Offered Fall. (No prerequisite)

CIDG 103 Blueprint Reading for Construction 3.0 Units
A course designed to develop skills necessary to interpret both residential and commercial construction drawings and blueprints. 48-54 hours lecture. CSU Offered Fall. (No prerequisite)

CIDG 104 Blueprint Reading for Industry 3.0 Units
A course designed to develop skills necessary to visualize and correctly interpret drawings and diagrams common to industry. 48-54 hours lecture. CSU Offered Spring. (No prerequisite. Grade Option.) This course may be taken two times.

CIDG 108 Architectural Presentation 3.0 Units
A study of two common architectural presentation techniques: model making and illustration. Students will develop skill in creating architectural models using paper, mat board, wood, plastic, and styrene foam. The illustration portion of this course will include work with perspectives in pencil, watercolor, and airbrush. 32-36 hours lecture and 48-54 hours laboratory. CSU Offered Spring. (No prerequisite. Grade Option.) This course may be taken three times.

CIDG 110 Two Dimensional AutoCAD 3.0 Units
An introduction to the AutoCAD program including all necessary basic commands required for computer aided drafting. Students will master drawing setup, common draw, edit and viewing commands and plotting. Lectures and exercises are designed to provide a comprehensive knowledge of all basic computer drafting functions. 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite, Grade Option) This course may be taken two times.

CIDG 120 Solids Modeling and Three Dimensional CADD 3.0 Units
Solid Modeling and Three Dimensional CADD will introduce students to a new autodesk software package entitled INVENTOR. Students will understand the concepts involved in Parametric Modeling. Students will begin by constructing basic shapes and proceed to building intelligent solid models and create multi-view drawings. Assembly drawings, section views, auxiliary views, sheet metal drawings, and details will also be produced. Students will develop their drafting and computer skills through drawings and projects that emphasize teamwork and the design process. Students will also learn various hardware, software and peripheral components related to operating a CADD station. CSU (No prerequisite)

CIDG 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

CIDG 160 3ds Max Fundamentals 3.0 Units
Students will learn the basics of 3D modeling, how to create and apply realistic textures, lighting principles and techniques, camera types and their appropriate usage, and fundamental keyframing procedures. Other topics to be covered include storyboards, the traditional principles of animation, current industry trends and issues pertaining to rendering output for different mediums (film, video, Internet, etc.). 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option.) This course may be taken four times.

CIDG 210 Advanced Two Dimensional AutoCAD 3.0 Units
This course will explore the more advanced two-dimensional features of the AutoCAD program including entity filters, attributes, external reference files, paper space, and slide presentations. Projects include sectional description of compound shapes and developments. 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite) This course may be taken two times.

CIDG 230 Civil Engineering Using Land Desktop I 3.0 Units
A working knowledge of AutoCAD is highly recommended. Introduction to Civil Engineering drafting and design techniques commonly used by government and private industry. Course includes a hands-on approach to using AutoDESK Land Desktop software application. Students will develop tract, parcel and utility maps, zoning overlays and site plans. 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option.) This course may be taken four times.

CIDG 231 Civil Engineering Using Land Desktop II 3.0 Units
A working knowledge of AutoDESK Land Desktop is highly recommended. Advanced study of Civil Engineering drafting and design techniques commonly used by government and private industry. Course includes a hands on approach to using AutoDESK Land Desktop software application. Students will develop improvement plans, including grading plans, street plan and profiles and utility plans. 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option.) This course may be taken four times.

CIDG 250 Architectural Computer Aided Design I 3.0 Units
This course is designed to develop computer drafting skills necessary to produce residential working and presentation drawings. Design principles will be explored through the use of the Auto CAD/AutoDESK Architectural Desktop program. 32-36 hours lecture and 48-54 hours laboratory. Offered Fall. CSU (Prerequisite: CIDG 110. Grade Option.) This course may be taken four times.

CIDG 251 Architectural Computer Aided Design II 3.0 Units
This course will cover more advanced computer skills necessary to produce commercial and institutional working and presentation drawings. Basic and advanced design principles will be explored and implemented through the use of the Auto CAD program. 32-36 hours lecture and 48-54 hours laboratory. Offered Spring. CSU (Prerequisite: CIDG 250) This course may be taken two times.

CIDG 260 3ds Max Advanced Modeling and Materials 3.0 Units
Students will learn the more advanced modeling features of 3ds Max. Complex aspects of building materials and textures will be covered in depth. The course will culminate with students being introduced to the video game environment, having the opportunity create their own game level. The course will prepare students for work in the entertainment, commercial, and computer gaming industries. 32-36 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CIDG 160) This course may be taken four times.

CIDG 261 3ds Max Character Animation and Advanced Keyframing Techniques 3.0 Units
Students will learn advanced animation techniques including editing keyframes through Track View, animating with controllers and constraints, wiring parameters, and using hierarchies. Character animation will be addressed in depth. Character Studio and Bones will be utilized to build skeletal systems for both characters and creatures. The course will prepare students for work in the entertainment, commercial, and computer gaming industries. 32-36 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: CIDG 260. Grade Option) This course may be taken four times.

CONSTRUCTION AND MANUFACTURING TECHNOLOGY

CT 2 Assistant Property Management 1.0 Unit
This class covers basic aspects of property management. Topics covered include code of ethics, inspections, filings, services posting of notices, collections, small claims court filings, evictions, securities and deposits, basic bookkeeping, and landlord tenant relations and rights. 16-18 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Grade Option)

CT 60A/B/C/D Construction Laboratory 1.0-4.0 Units
A laboratory class to provide additional skill development in the following areas: electrical wiring, finish carpentry, heating and air conditioning, framing, plumbing and concrete and masonry construction. Students will complete contract projects. 48-54 hours laboratory per unit, per term. Offered every semester. (No prerequisite)

CT 101 Careers in Construction and Manufacturing 1.5 Units
This course is designed to provide the construction, manufacturing and drafting technology student with information and skills necessary to understand current job market needs and prepare a successful educational plan to obtain their desired goals. Students will develop an awareness of occupations and develop skills for seeking employment and completing job applications, resumes and interviews. 24-27 hours lecture. CSU (No prerequisite.)

CT 103 Construction Management 3.0 Units
Principles of management as they specifically relate to the construction industry. This course explores the relationship and importance of proper planning, estimating, contracting, financing and building. Also covered are leadership and supervisory skills, employer/employee relationships and safety. 48-54 hours lecture. CSU. Offered every 4th semester, Spring. (No prerequisite)

CT 104 Construction Law 3.0 Units
Principles of contracting, real estate and construction law. Course includes legal aspects of building codes, contractors' licenses, workmen's compensation, social security, state safety regulations and lien laws as they apply to the construction trade. 48-54 hours lecture. CSU. Offered every 4th semester, Fall. (No prerequisite)

CT 105 Technical Sketching 3.0 Units
A course designed to develop sketching skills and introduce sketching techniques currently used in the industrial and architectural fields. Includes principles of oblique, isometric and perspective sketching, including shading and shadows. 32-36 hours lecture and 48-54 hours laboratory. CSU. Offered Spring. (No prerequisite. Grade option)

CT 106 Materials of Construction 3.0 Units
A study of common materials used in residential and commercial construction. Course includes use and limitations of soil, paving materials, concrete, lumber, wall materials, roofing, insulation, siding, sheet material, electrical and plumbing materials and fixtures. This course will also explore the use of steel, aluminum and plastics in modern construction. 48-54 hours lecture. CSU. Offered every 4th semester, Fall. (No prerequisite)

CT 107 Technical Mathematics 3.0 Units
A review of basic arithmetic, fractions, decimals and percentages. Introduction to basic algebra and trigonometry as they apply to the manufacturing and construction trades. 48-54 hours lecture. Offered Fall. CSU (No prerequisite)

CT 108 Advanced Technical Math 3.0 Units
This course will include the practical applications of algebra, geometry and trigonometry. Class emphasis will be on the solution of technical problems commonly found in the fields of engineering, drafting, manufacturing and construction. 48-54 hours lecture. CSU. Offered every 4th semester, Spring. (No prerequisite)

CT 109 Construction Financing 3.0 Units
This course introduces the basic issues and concepts of construction finance. Course examines the procedures for evaluation of all types of real estate credit and is designed to enable borrowers to utilize their resources to obtain financing. 48-54 hours lecture. CSU. Offered every other Summer. (No prerequisite)

CT 110 Building Codes and Zoning 3.0 Units
Use of the Uniform Building Code and the various related state and local ordinances for plan checking and building compliance. Course includes a basic understanding of building codes and zoning as they apply to the construction and inspection of residential and light commercial buildings. 48-54 hours lecture. CSU. Offered every 4th semester, Fall or Summer. (No prerequisite)

CT 111A Uniform Building Code I 3.0 Units
The first of a two part, in-depth study of the contents and applications of the Uniform Building Code and California amendments; emphasis on residential construction. This course includes building classifications by occupancy and type, engineering regulations and design requirements applicable to plan checking and structural building inspection. 48-54 hours lecture. Offered every 4th semester, Spring. (No prerequisite)

CT 111B Uniform Building Code II 3.0 Units
An in-depth study of the Uniform Building Code and California amendments; emphasis on commercial applications. Course includes energy conservation standards, specialized commercial structures, public safety and standards for handicapped accessibility. 48-54 hours lecture. CSU. Offered every 4th semester, Fall. (No prerequisite)

CT 112 Uniform Mechanical Code 3.0 Units
This class is an in-depth study of the contents and applications of the Uniform Mechanical Code. Course covers the use of this code for plan checks and inspection of residential and commercial structures. 48-54 hours lecture. CSU. Offered every 4th semester, Spring. (No prerequisite)

CT 113 Uniform Plumbing Code 3.0 Units
This class is an in-depth study of the contents and applications of the Uniform Plumbing Code. Course includes underground and above ground water, gas and air pipe installations for residential and commercial structures. 48-54 hours lecture. CSU. Offered every 4th semester, Spring. (No prerequisite)

CT 114 National Electrical Code 3.0 Units
This class is an in-depth study of the contents and applications of the National Electrical Code. Course covers the use of the code for plan checks and inspection of residential and commercial structures. Plan reading, electrical theory, wiring methods and installation of electrical components and fixtures are also included. 48-54 hours lecture. CSU. Offered every 4th semester, Spring. (No prerequisite)

CT 115 Technical Office Procedures and Field Inspection 3.0 Units
Office organization, procedures and necessary paperwork pertinent to building and safety office management and inspection. Field inspection for completed building, zoning, health and safety ordinance applications. Course includes several field trips. 48-54 hours lecture. CSU. Offered every 4th semester, Spring. (No prerequisite.)

CT 116 Construction Safety 2.0 Units
An overview of industrial safety procedures as they relate to the construction job site. This course includes a study of common OSHA regulations and procedures. 32-36 hours lecture. CSU. Offered every 4th semester, Fall. (No prerequisite)

CT 119 Load Calculations and Circuit Design 3.0 Units
This course is designed to develop the skills necessary to visualize and correctly interpret drawings, diagrams, blueprints, and schematics common to the electrical industry. Course includes branch and feeder circuit design and load calculations as they apply to residential, multi-family, commercial and industrial applications. 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite) This course may be taken four times.

CT 120A Electrical Wiring 4.0 Units
Theory, procedure and techniques for electrical wiring of residential and light commercial construction. Topic areas include blueprint reading, power panels, wire sizing, conduit bending and installation, pulling and installation of wires, lighting and plug circuitry, designated circuits, underground and swimming pool wiring. 32-36 hours lecture and 96-108 hours laboratory. CSU. Offered every 4th semester, Fall. (No prerequisite)

CT 120B Commercial Wiring 4.0 Units
Learn the techniques necessary for commercial wiring. Size conductors for motor, intermittent and continuous loads. Wire for single and three phase services. Course includes wiring techniques common to commercial applications, running circuits with flex, electrical metallic tubing, rigid and liquid tight conduits and use of common conductors, cables, boxes and raceways. Also included are transformers and motor load calculations, starters and over current protection devices. 32-36 hours lecture and 96-108 hours laboratory. CSU (Prerequisite: CT 120A) This class may be taken three times.

CT 121 Finish Carpentry 4.0 Units
Course covers use of hand and machine woodworking tools and techniques common to finish carpentry and cabinet making. Students will develop skill in safe and efficient operation of common tools, layout, cutting, assembly and finish of woodworking projects. 32-36 hours lecture and 96-108 hours laboratory. CSU. Offered every 4th semester, Spring. (No prerequisite)

CT 122A Heating and Air Conditioning 4.0 Units
This course provides instruction for layout, installation and repair of common residential and light commercial heating and air conditioning systems. Heating and air conditioning theory and energy calculations will be treated in depth. Course also includes use of solar energy for heating and cooling. 32-36 hours lecture and 96-108 hours laboratory. CSU. Offered Spring. (No prerequisite) See cross listing for HVAC 122A.

CT 122B Commercial Refrigeration 4.0 Units
Explore the more complex commercial and industrial uses of refrigeration, heating and air conditioning. Course covers installation and repair of the most common commercial refrigeration systems found in the food industry and industrial and manufacturing environments. Also included are computer controlled and central plant environmental systems, high and low pressure chillers, cooling towers and air handlers. 32-36 hours lecture and 96-108 hours laboratory. CSU (Prerequisite: CT 122A) See cross listing for HVAC 122B. This class may be taken three times.

CT 122C Heat Pump Fundamentals and Controls 4.0 Units
This course explores electrical and mechanical circuitry fundamentals, along with theory, operation and application of heat pump systems used in residential and light commercial heating installations including the heat pump refrigeration cycle, reversing valves, defrost methods of supplemental heat, balance point, air flow, and heat pump thermostats. 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite) See cross listing for HVAC 122C. This class may be taken four times.

CT 123 Surveying 4.0 Units
A course designed to explore the principles and applications of surveying. Students will develop skill in the operation of surveying equipment used for measuring, leveling and locating of points. Course includes surveying techniques common to building and highway construction, general land surveying, hydrographic surveys and photogrammetric mapping. 32-36 hours lecture and 96-108 hours laboratory. CSU. Offered every 4th semester, Spring. (No prerequisite.)

CT 124 Plumbing 4.0 Units
This course provides instruction for layout and installation of residential and light commercial plumbing systems and fixtures. Rough and finish stages of plumbing will be introduced and students will become familiar with reading plans and calculating and constructing the plumbing system. 32-36 hours lecture and 96-108 hours laboratory. CSU. Offered every 4th semester, Fall. (No prerequisite)

CT 125 Concrete and Masonry Construction 4.0 Units
Course covers use of hand and machine tools and techniques common to residential and light commercial concrete and masonry construction. Plan reading, layout, forming, pouring of concrete, tilt-up and various finishing techniques will be introduced. Course also includes construction with brick, stone, concrete block, and other masonry shapes. 32-36 hours lecture and 96-108 hours laboratory. CSU. Offered Fall. (No prerequisite)

CT 126 Exploring Brick and Block 1.5 Units
This course includes techniques used for construction of brick and block walls, decorative brick patios, planter edging and concrete slabs, curbs and walks. Class covers information on concrete and mortar mixes and proper forming, pouring and finishing of concrete slab and wall footings. 16-18 hours lecture and 24-27 hours laboratory. CSU (No prerequisite) This course may be taken for a total of four times.

CT 127 Framing 4.0 Units
Course covers use of hand and machine tools and techniques common to rough carpentry and residential and light commercial framing. Students will develop skill in safe and efficient operation of common tools, layout techniques, cutting and assembly of wall, ceiling and roof framing, and installing sheathing and insulation. 32-36 hours lecture and 96-108 hours laboratory. CSU. Offered every 4th semester, Fall. (No prerequisite)

CT 129 Independent Study
See Independent Study listing (1-4 units). CSU

CT 130 Residential Remodeling 3.0 Units
Learn the skills and techniques necessary for remodeling of residential structures. Course includes project planning, estimation and layout. Gain experience in framing, plumbing, electrical drywall, floor and wall finishing and concrete with projects that include patio and deck construction, room additions and kitchen and bathroom remodeling. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite) This course may be taken for a total of four times.

CT 131 Microcomputers in Construction 4.0 Units
This course is designed to introduce the student to the potentials of the computer as it directly applies to the construction industry. Course includes instruction and practice in basic DOS, word processing, spread sheets, estimation programs and introductory computer-aided drafting. 48-54hours lecture and 48-54 hours laboratory. CSU. Offered Fall. (No prerequisite)

CT 132 Construction Estimation 3.0 Units
Methods of estimation including material and quantity take-offs and analysis. Course also includes estimation of material, labor and overhead costs, subcontractors' bids and common bidding practice for all aspects of residential and light commercial construction. 48-54 hours lecture. CSU. Offered every 4th semester, Fall. (No prerequisite.)

CT 133 Precision Estimation 3.0 Units
Learn how to speed up your estimating process and increase your accuracy using today's leading construction estimating software. Timberline Precision Estimation Plus allows take-off using quick, single and assembly methods. Course includes development and maintenance of your database. Create your own crews, add-ons, formulas and assemblies to meet your particular estimating needs. 32-36 hours lecture and 32-36 hours by arrangement. CSU (No prerequisite.) This course may be taken for a total of three times.

CT 136 HVAC Circuits and Controls 4.0 Units
This course explores electrical fundamentals common to the heating, ventilation, air conditioning and refrigeration fields. Course includes electrical theory, control circuitry and electronics, system supply circuitry and alternating and direct current troubleshooting. 48-54 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite) See cross listing for HVAC 136. This course may be taken four times.

CT 137 Sheet Metal Fabrication 3.0 Units
This course will introduce the student to the fundamental elements, methods and principals of sheet metal design, fabrication and installation. Course includes air handling systems, gutters, flashings, coping, tanks and exhaust systems. Students will gain valuable hands-on skills in the proper use of metal working hand and machine tools through the completion of multiple projects. 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite) This course may be taken four times.

CT 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

CT 140 Construction Internship 4.0 Units
Gain valuable hands-on construction skills by participating in the creation and operation of a small construction business. Students will research the market, design the project, estimate the costs, develop a business plan, secure a construction loan, prepare a schedule and analyze the projects progress and perform customer service and sales. 64-72 hours lecture. CSU. (No prerequisite. Grade Option) This course may be taken four times.

CT 141 Construction Internship Laboratory 2.0-12.0 Units
This course is the laboratory component for CT 40 Construction Internship. Students will research, develop, construct and market a construction project using computers and common construction tools and equipment. Six hours weekly by arrangement per unit. CSU. (No prerequisite. Grade Option) This course may be taken four times.

CT 142 Renewable Energy 3.0 Units
This course explores methods of generation and use of renewable energy. Topics include renewable fuel based generators, fuel cells, wave and tidal generation, geothermal, wind turbines, photovoltaic, barometric pressure, and hydroelectric generation. Course also covers active and passive solar heating and cooling, alternate fuel vehicles and electric transportation. 48-54 hours lecture. CSU. (No prerequisite. Grade Option) This course may be taken four times.

CT 143A/B/C/D Renewable Energy Laboratory 2.0-5.0 Units
This laboratory course explores methods of generation and use of renewable energy through actual projects. Additional projects include the creation of an active and passive solar heating and cooling system and exploration of alternate fueled and electric vehicles. 16-18 hours lecture and 48-54 hours laboratory per unit, per term. CSU. (No prerequisite. Corequisite: CT 142, Renewable Energy. Grade Option)

CT 148 Special Topics
See Special Topics listing (Variable units). CSU

CONSTRUCTION TECHNOLOGY MANUFACTURING

CTMF 120A Woodworking Tools and Equipment 2.0 Units
This course is designed to give the woodworking student an in-depth knowledge of common woodworking tools and equipment. Students will explore the safety, use and maintenance of saws, lathes, routers, planers, jointers, sanders and common power and hand tools used for basic woodworking projects. 32-36 hours lecture. CSU (No prerequisite) This course may be taken three times.

CTMF 120B Advanced Woodworking Tools and Equipment 2.0 Units
This course is designed to give the woodworking student an in-depth knowledge of the more advanced woodworking tools, equipment and operations. Students will explore the safety, setup, use and maintenance of saws, lathes, routers, planers, jointers, sanders and common power and hand tools as used in advanced woodworking projects. Course also includes extensive coverage of tool sharpening. 32-36 hours lecture. CSU (Prerequisite: CTMF 120A.) This course may be taken four times.

CTMF 121A Woodworking 3.0 Units
This is a beginning woodworking class. Topics covered include safety, tools, the composition of wood and its characteristics, beginning design and sketching, project planning, measuring and cutting, use of large and small power tools, and general woodworking techniques. Students will be expected to complete multiple projects as part of their grade. 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Corequisite CTMF 120A. Grade option.) This course may be taken two times.

CTMF 121B Advanced Woodworking 3.0 Units
This is an advanced course in fine woodworking using techniques common to custom wood products, furniture making and wood art. Learn the artisan's techniques for wood joining, carving, turning and finishing by completing various wood projects. Course includes a study of common woods, tools and methods for shaping and finishing. 32-36 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CTMF 121A) This course may be taken for a total of four times.

CTMF 122A/B/C/D Advanced Wood Topics 3.0 Units
Come develop your skills and learn the methods and procedures necessary for completing an advanced woodworking project. One specific advanced woodworking project is selected as the focus for each semester. Check with the Construction Technology Department for the current project. Course may also include specialized techniques of turning, marquetry, parquetry, carving and intarsia. 32-36 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CTMF 121A Basic Woodworking. Grade option.) This course may be taken four times.

CTMF 127 Production Woodworking 3.0 Units
This course covers techniques common to production woodworking and includes design and construction of custom jigs, fixtures and templates for drill presses, routers, saws and lathes. Students will gain experience with computer numerical controlled routers, surfacing sanders, airbag sanders and production fastening techniques and wood finishes while creating several commercial woodworking projects. 32-36 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CTMF 126A)

CTMF 129A Woodturning 3.0 Units
This introductory course will provide the woodworking student with information and skills necessary to successfully design, turn and finish typical woodturning projects. Course includes lathe, spindle, faceplate and drive chuck turning. Students will complete a variety of projects that can include pens and pencils, games and toy pieces, decorations, lamps, spindles, bowls and boxes. 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Corequisite CTMF 120A.) This course may be taken four times.

CTMF 129B Advanced Woodturning 3.0 Units
This advanced woodturning course includes green, seasoned and laminated wood and acrylic projects. Students will explore turning of large bowls and platters, maintaining natural edges, turning burls, proper box and lid construction, off center turning, chatter finishes and construction of turning fixtures, centers and drives. 32-36 hours lecture and 48-54 hours laboratory. CSU (Prerequisite: CTMF 129A, Woodturning. Grade option.) This course may be taken four times.

CTMF 130A Mechanical Desktop 3.0 Units
Develop your skill in creating accurate three-dimensional parametric models using Mechanical Desktop. Explore the exciting features of this program which includes parametric modeling, surfacing, model analysis, interference checking and assemblies. Learn how to export surface and design information to computer controlled mills and routers. This is an introductory class in Mechanical Desktop. 32-36 hours lecture and 32-36 hours by arrangement. CSU (Prerequisite: CIDG 110.) This course may be taken for a total of three times.

CTMF 130B Mechanical Desktop Advanced 3.0 Units
This advanced course in Mechanical Desktop includes a focused exploration of detailed models and complex assembly models. Students will explore the full features of the Mechanical Desktop package including fasteners, shaft and gear generation and creation of motion based, skin and derived surfaces. Both localized and externalized assemblies will be created and analyzed for interference and engineering characteristics. 32-36 hours lecture and 32-36 hours by arrangement. CSU (Prerequisite: CTMF 130A)

CTMF 131A Mastercam 3.0 Units
Learn the techniques of numerical controlled programming using Mastercam software. Generate three-dimensional models and learn how to create parts, molds, and fixtures using integrated solids, surfaces and wireframes. Unite the software with the machine and create milled or routed three-dimensional parts. 32-36 hours lecture and 32-36 hours by arrangement. CSU (No prerequisite.)

CTMF 131B Mastercam Advanced 3.0 Units
This advanced course includes an in-depth study of the more complex features of Mastercam. Students will create geometry and toolpaths for complex three-dimensional and surface models for mills, routers, lathes and engraving machines. Programming of multi-axis and mill-turn machines will be explored. 48-54 hours lecture and 32-36 hours by arrangement. CSU (Prerequisite: CTMF 131A.) This course may be taken three times.

CTMF 140 Manufacturing Internship 4.0 Units
This course will provide the construction, drafting and manufacturing technology student with hands-on job skills and experience common to the manufacturing industry. 64-72 hours lecture. CSU (No prerequisite. Grade Option.) This course may be taken three times.

CTMF 141 Manufacturing Internship Laboratory 2.0-12.0 Units
This course is the laboratory component for CTMF 140 Manufacturing Internship. Students will research, design, manufacture and market a project using computers and common manufacturing equipment. CTMF 140 must be taken concurrently. Six weekly hours by arrangement per unit. CSU (No prerequisite. Grade Option.) This course may be taken three times.

CONSTRUCTION TECHNOLOGY MAINTENANCE

CTMT 120 Residential Maintenance and Repair 4.0 Units
This class covers all major aspects of preventative maintenance and repair for residential and light commercial buildings. Topics covered include but are not limited to repairing roofing, plumbing, electrical framing, insulation, drywall, painting, concrete, flooring, safety, tools, heating and cooling, etc. as they apply to the maintenance and repair industry. 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option)

CTMT 121 Plumbing Repair 3.0 Units
This class covers most aspects of residential and light commercial plumbing repair. Topics covered include but are not limited to plumbing tools, water supply systems, drainage systems, drainage problems, faucets and valves, piping, soldering and threading, water heating systems, plumbing fixtures, pricing, billing, and inventory management, as they apply to the plumbing repair business. 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option)

CTMT 122 Electrical Repair 3.0 Units
This class covers most aspects of residential and light commercial electrical repair. Topics covered included but are not limited to electrical tools, electrical theory, wiring systems electrical materials, electrical services, troubleshooting electric circuits, low voltage circuits, appliances and motors, and mathematics for electricians. T 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option)

CTMT 123 Custodial Maintenance 4.0 Units
This course covers the major aspects of custodial and janitorial work. Course includes general cleaning techniques, cleaning equipment use and maintenance, cleaning chemicals, window care, maintaining hard floors, carpet and upholstery care, chemical hazards, Cal OSHA regulations, and handling of infectious waste as they apply to the janitorial industry. 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option)

CTMT 129 Small Engines and Light Vehicles 3.0 Units
This class covers the fundamentals of small internal combustion engines, and their uses in light vehicles. Topics covered will include but are not limited to theory of small internal combustion engines, service, troubleshooting, repair, small engine applications, and light vehicle design. 32-36 hours lecture and 48-54 hours laboratory. CSU (No prerequisite. Grade Option) This course may be taken three times.

CONSTRUCTION TECHNOLOGY PUBLIC WORKS

CTPW 111 Introduction to Public Works 3.0 Units
Introduction to techniques, materials and equipment used in Public Works maintenance and construction. Meets the standards of the American Public Works Association, Street Superintendents' Association and Inspectors' Association. 48-54 hours lecture. CSU. Offered every 3rd semester. (No prerequisite)

CTPW 112 Plan Reading for Public Works 3.0 Units
Reading and interpreting plans related to public works, water, storm drain, and sewage facility projects. Basic survey methods, symbols, mathematical conversions, and determination of slope and grade. 48-54 hours lecture. CSU. Offered every 4th semester, Fall. (No prerequisite)

CTPW 113 Public Works Inspection 3.0 Units
General public works inspection techniques. Includes Portland Cement and asphalt concretes, soils, base and subgrade, safety, contracts, and specifications. Responsibilities of the contractor, engineer, agency, and inspector. 48-54 hours lecture. CSU. Offered every 4th semester, Spring. (No prerequisite)

CTPW 114 Public Works Administration 3.0 Units
An introduction to the organizational concepts used by the Public Works department. Includes typical organization, management concepts, political considerations, planning, budget management and public relations. 48-54 hours lecture. CSU. Offered every 3rd semester. (No prerequisite.)

CTPW 115 Street and Highway Construction 3.0 Units
Equipment, materials, and methods employed in the construction, inspection, and maintenance of streets and highways. Includes Portland Cement concrete; surface drainage; traffic signs; safety and safe practices, highway design; laws, codes and ordinances; management principles; budget preparations; equipment maintenance records; underground utilities; surveying and staking. 48-54 hours lecture. CSU. Offered every 4th semester, Fall. (No prerequisite)

CTPW 116A Water Distribution Systems I 3.0 Units
Water distribution systems operation. Fundamentals of water production, quality, and system operation. Includes piping, services, pumps, reservoirs, mathematics, and basic hydraulics. Preparation for Grades I and II Water Distribution Operator Certification. 48-54 hours lecture. CSU. Offered every 4th semester, Fall. (No prerequisite)

CTPW 117 Portland Cement Concrete 3.0 Units
Portland Cement concrete design and uses. Covers transporting, placing, curing, and testing Portland Cement concrete. Applications and construction methods employed. 48-54 hours lecture. CSU. Offered every 4th semester, Spring. (No prerequisite)

CTPW 118 Solid Waste Management 3.0 Units
Methods used in collection of solid waste materials. Includes equipment, scheduling, and customer relations. Ultimate disposal of solid waste matter as well as projections concerning future collection and disposal operations. Special emphasis on municipal resource recovery, salvaging, and recycling. 48-54 hours lecture. CSU. Offered every 4th semester, Spring. (No prerequisite)

CTPW 119 Wastewater Management 3.0 Units
Comprehensive examination of wastewater management, impact of waste contributions from home and industry, effects of wastewater treatment, water reclamation and by-product disposal. 48-54 hours lecture. CSU. Offered every 4th semester, Fall. (No prerequisite)

DEVELOPMENTAL STUDIES

DVST 1 Language Analysis Development 3.0 Units
This course is designed for students with language-based learning disabilities. It includes both perceptual and neurological deficit stimulation therapy as well as a multisensory, direct instructional, cognitive approach to analyzing the internal components and the rules that govern both the decoding and encoding processes involved in reading and spelling. Many of the activities will enhance a student's reasoning ability and comprehension of both the written and spoken word. This course will not apply to the Associate Degree. 32-36 hours lecture and 32-36 hours by arrangement. (No prerequisite) This course may be taken four times.

DVST 2 Language Analysis Development 3.0 Units
This course is specifically designed for students with language-based learning disabilities. It includes both perceptual and neurological deficit stimulation therapy as well as a multisensory, direct instructional, cognitive approach to analyzing the internal components and the rules that govern both the decoding and encoding processes involved in reading and spelling. Many of the activities will enhance a student's reasoning ability and comprehension of both the written and spoken word. This course will not apply to the Associate Degree. 32-36 hours lecture and 32-36 hours by arrangement. (No prerequisite) This course may be taken four times.

DVST 3 Language Analysis Development 3.0 Units
This course is specifically designed for students with language-based learning disabilities. Relational patterns within sentences and paragraphs are analyzed and coupled with reasoning skills in order to enhance verbal comprehension of both written and spoken language. Specific language activities designed to stimulate auditory and visual perception and memory are included. A structured, interactive, multisensory approach is used. This course will not apply to the Associate Degree. 32-36 hours lecture and 32-36 hours by arrangement. (Prerequisite: GUID 16) This course may be taken four times.

DVST 4 Mathematical Reasoning 3.0 Units
This course is designed to stimulate the visual, auditory and cognitive deficit areas which may interfere with student's ability to problem solve with mathematical vocabulary and concepts and internalize basic math facts. An integrative, interactive, highly structured approach is used in this course. This course will not apply to the Associate Degree. 32-36 hours lecture and 32-36 hours by arrangement. Credit/No Credit (Prerequisite: GUID 16) This course may be taken four times.

DIGITAL ANIMATION

See Computer Integrated Design and Graphics
See Media Arts

ECONOMICS

ECON 101 Principles of Economics: Macro 3.0 Units (CAN ECON 2)
Introduction to economic theory and analysis with emphasis on fiscal and monetary policy, capitalism, national income, employment, money, economic stability, economic growth and achievements emphasizing the macro-economic approach. The purpose is to provide students with an introduction into major issues facing the world economies, exposing students to the methods that economists use to study and solve those issues and economic policy problems of the 21st century. 48-54 hours lecture. CSU,UC. Offered Fall, Spring, Summer. (No prerequisite.)

ECON 102 Principles of Economics: Micro 3.0 Units (CAN ECON 4)
Introduction to economic theory and analysis with emphasis on basic concepts, the economics of business organizations and resource allocation, domestic, international, and world economics. Emphasizes the micro-economic approach. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite) This course may be taken two times.

ECON 128 Special Topics
See Special Topics listing (Variable units). CSU

ECON 129 Independent Study
See Independent Study listing (1-3 units). CSU

EDUCATION

EDUC 101 Introduction to Teaching 3.0 Units
An introduction to teaching as a career and to education as a social institution. The crucial issues facing education in contemporary American society are considered in the framework of the democratic way of life. Special attention is given to issues in educational technology, as well as to the goals, curriculum, and methods of elementary education. The opportunities, challenges, and requirements of teaching as a profession are presented. This course is not designed to be a course in professional education. 48-54 hours lecture. CSU. UC. (No prerequisite)

EDUC 138 Cooperative Education
See Cooperative Education (1 - 8 units). CSU

EDUCATIONAL TECHNOLOGY

ETEC 51 Introduction to Educational Technology 3.0 Units
This course examines technology from three integrated perspectives: technology as a tool, a medium, and a setting for learning. Students will extensively use Internet tools as they survey a variety of strategies for integrating technology into the classroom. The course will also instruct students on the basic methods and strategies for creating Web-based learning activities. Students will have the opportunity to create projects relevant to their educational setting. 48-54 hours lecture. (No prerequisite)

ETEC 70 Leadership in Educational Technology 3.0 Units
This course defines and details constructivist leadership, framing that leadership in terms of educational technology. Students will apply these concepts to their own settings through introductory understandings of knowledge management and virtual learning. Students will have the opportunity to formulate technology rollout and training plans specific to their educational organizations or fields. 48-54 hours lecture. (No prerequisite)

ETEC 90 Educational Technology Internship 2.0 Units
This course provides students with valuable experience in educational settings by partnering them with teachers or other professional educators to assess needs, collaborate on possible solutions, support implementations, and evaluate outcomes. Students will also benefit from working within a community of practice during their internships. 16-18 hours lecture and 48-54 hours laboratory. (No prerequisite, Credit/No credit)

ETEC 106 Introduction to Computer Technology for Educators 4.0 Units
A survey course which provides an overview of computer technology for multi-disciplinary majors, but with emphasis on its role in educational settings. The course provides instruction in a variety of topics supported by hands-on laboratory work with operating systems, word processing, spreadsheets, databases, desktop publishing, programming, networks, and the Internet. Application and evaluation of computer technology in learning environments serves as the overall framework. See cross listing for CIS 106. 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite)

ETEC 107 Introduction to the Internet for Educators 2.0 Units
A course for education students or current teachers to acquire the skills needed to effectively utilize the Internet in the classroom. Emphasis will be placed on computer-mediated communication with the World Wide Web. Students will become well versed in the use of Web browsers, FTP, newsgroups/asynchronous discussion, e-mail, and chat synchronous discussion. See cross listing for CIS 107. 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite)

ELECTRONICS AND COMPUTER TECHNOLOGY

ELCT 5 CET Exam Preparation 2.0 Units
Covers all electronic circuits required by the Electronics Technicians Assn. International for successful completion of the Certified Electronic Technician examination. Includes DC and AC circuits, filters, thyristors, transistors, diodes, power supplies, and voltage regulators; also covers test equipment used in electronics including voltmeters, ammeters, oscilloscope frequency meters, and VTVM's's. This course will not apply to the Associate Degree. 32-36 hours lecture. Offered Spring. (No prerequisite)

ELCT 6 FCC License Preparation 2.0 Units
Designed for students enrolled in Electronics Communications Systems. Topics include Element 3 Examination (General Radio Telephone) - provisions of laws, treaties and regulations, radio operating procedures and practices; technical matters including fundamentals of electronics technology and maintenance techniques. This course will not apply to the Associate Degree. 32-36 hours lecture. Offered Spring. (No prerequisite)

ELCT 7 A+ Certification Examination Preparation 2.0 Units
The A+ Certification Examination Preparation course is designed to help the student pass the A+ Certification Test as quickly and easily as possible. The course consists of three main elements: (1) a test simulation and review software program that provides practice tests with realistic questions, (2) an A+ Certification Program "Student Guide," and (3) access to a 5800 page reference library consisting of ten textbooks. This course will not apply to the Associate Degree. 16-18 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

ELCT 50 A+ Operating Systems Technologies 4.0 Units
This course is designed to prepare students to take the A+ Operating Systems Technologies Examination. Topics will include coverage of operating systems fundamentals for DOS, Windows 9X and Windows 2000; knowledge of installing, configuring and upgrading Windows 9X and Windows 2000; and how to diagnose and troubleshoot common problems relating to Windows 9X and Windows 2000. This course will cover knowledge of network capabilities of Windows and how to connect to networks on the client side. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option) This course may be taken four times.

ELCT 51 C++ Programming for Electronics and Computer Technology 4.0 Units

This course is designed to introduce students to C++ programming for scientific applications in engineering technology through lecture and lab. Topics will include writing C++ routines for analysis of electrical and electronics circuits, real time data acquisition and analysis, modeling of electronics components, interfacing with LabView for data collection and processing, interfacing with MathCAD and Workbench. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option) This course may be taken four times.

ELCT 53 Electronic Communication Principles 4.0 Units

Study of all relevant aspects of modern communication principles. Topics include amplitude modulation transmission and reception, single-sideband communications, frequency modulation transmission and reception, television, and communications techniques. 48-54 hours lecture and 48-54 hours laboratory. Offered Fall. (No prerequisite)

ELCT 54 Electronic Communication Systems 4.0 Units

A study of modern communication systems. Topics include digital and data communications, transmission lines, wave propagation, antennas, wave guides and radar, microwave and lasers, and fiber optics. 48-54 hours lecture and 48-54 hours laboratory. Offered Spring. (No prerequisite)

ELCT 57 Technical Mathematics For Electronics I 3.0 Units

This course is designed to provide a basis for a clear mathematical understanding of the principles of DC electricity and electronics and their analysis. Covered are algebra, equations, power of 10, units and dimensions, special products and factoring, algebraic fractions, fractional equations, graphs, simultaneous equations, determinants and matrices, exponents and radicals, and quadratic equations. 48-54 hours lecture. Offered Fall, Spring. (No prerequisite)

ELCT 58 Technical Mathematics For Electronics II 3.0 Units

This course is designed to provide a basis for a clear mathematical understanding of the principles of AC electricity and electronics and their analysis. Covered are inequalities, series, angles, trig functions, solution of right triangles, trig identities and equations, plane vectors, periodic functions, phasor algebra, and logarithms. 48-54 hours lecture. Offered Spring, Summer. (No prerequisite)

ELCT 59 Technical Calculus For Electronics I 3.0 Units

This course is designed for students who are preparing for careers in electronics, electricity, computers, and related technical fields. Topics include fundamental concepts, introduction to calculus for electronics, functions, rates, limits, graphic differentiation, basic operations, derivatives, differentials, maxima and minima, and integrals. 48-54 hours lecture. Offered Fall. (No prerequisite) This course may be taken two times.

ELCT 60 Technical Calculus For Electronics II 3.0 Units

This course in technical calculus for electronics continues the study of functions and further operations. Topics includes trig functions, logarithmic and exponential functions, hyperbolic functions, partial derivatives, integration techniques, double integrals, infinite series, MacLaurin series, Taylor series, Fourier series, and introduction to differential equations. 48-54 hours lecture. Offered Spring. (No prerequisite) This course may be taken two times.

ELCT 61 Basic Maintenance of Personal Computers 4.0 Units

This hands-on course is designed to provide non-technical personal computer (PC) users with the skills necessary to service and upgrade PCs. Activities include: computer assembly and disassembly, disk drive removal and installation, and memory expansion with integrated circuit (IC) chips. Installation and check out of special functions boards, such as FAX/modem, also will be demonstrated. Lectures describing the PC and its components are augmented with computer-aided individualized instruction modules covering selected electronic principles related to the PC. Satisfies computer industries A+ certification requirements. 32-36 hours lecture and 24-27 hours laboratory and 40 hours by arrangement. (No prerequisite)

ELCT 62 Personal Computer (PC): Servicing 3.0 Units

This hands-on course is designed to provide the student skills to work service, maintain, upgrade, and optimize personal computers. Activities include: computer disassembly, component identification, using diagnostic software, configuring the computer, troubleshooting methods, hard drive removal and installation, floppy drive removal and installation, troubleshooting a malfunctioning computer, and introduction to advanced troubleshooting techniques. Satisfies computer industries A+ certification requirements. 96-108 hours individualized instruction. (No prerequisite)

ELCT 63 Personal Computer (PC): Troubleshooting 3.0 Units

This course is a continuation of ELCT 95, Personal Computing Servicing. This hands-on course is designed to provide comprehensive troubleshooting down to the component level. Topics include: computer circuits, central processing unit (CPU) and support circuits, system monitors, input/output (I/O), system and secondary cache memory, video, disk drives and their control, and troubleshooting techniques. 96-108 hours individualized instruction. (No prerequisite)

ELCT 65 PC Monitors 3.0 Units

This hands-on course covers the fundamentals of troubleshooting and repairing PC monitors. Major topics include: signal inputs, external adjustments, components and circuit identification, power supply, video, vertical, and horizontal drive circuits, and troubleshooting, The student will utilize multimeters, signal generators, and oscilloscopes to troubleshoot various monitor faults. This course meets the objectives of the PC monitor section of the A+ certification examination. 96-108 hours individualized instruction. (No prerequisite)

ELCT 69 Network Topologies and Cabling 2.0 Units

This course provides both the technical instruction and the practical maintenance skills required to identify and layout common network topologies, and the type of cabling required for each. The course also includes hands-on projects configuring both a bus and star network, constructing the appropriate cables, installing the proper connectors, and testing the system using standard testing equipment. 64-72 hours individualized instruction. (No prerequisite)

ELCT 70 PC Operating Systems 3.0 Units

This course provides the student with the necessary background working with MS DOS 6.22 and MS Windows 3.11 for Workgroups to successfully pursue the A+ certification program. This is a self paced program that utilizes computer aided instruction (CAI) as the principle instruction tool. 96-108 hours individualized instruction. (No prerequisite)

ELCT 71 Principles of Digital Logic and Circuits 4.0 Units

This course covers semiconductors for digital circuits, digital logic circuits and digital integrated circuits; introduces Boolean Algebra, flip-flops and registers, sequential logic circuits and combinational logic circuits. Students learn how digital circuits are used in semiconductor memories; how data is converted from analog-to-digital and digital-to-analog formats; and how to troubleshoot digital circuits. 48-54 hours lecture and 48-54 hours laboratory. Offered Fall. (No prerequisite)

ELCT 73 Microprocessor Principles 4.0 Units

This course covers computer number systems and codes, computer arithmetic, programming, the internal register, structure of the 6800 and 6808 microprocessors, microprocessors interfacing to RAM, ROM, and various input/output devices, input and output data operations through a peripheral interface adapter, and applications of the PIA. 48-54 hours lecture and 48-54 hours laboratory. Offered Spring. (No prerequisite)

ELCT 78A Cisco Networking Academy I 4.0 Units

Introduces the student to the computer network terminology, design principles, topology and protocols. Topics will include Open System Interconnection (OSI) model and industry standards, network topologies, Internet Protocol (IP) addressing, networking components, and basic network design. Satisfies Cisco Certified Network Associate (CCNA) certification exam requirements. 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: ELCT 77A or ELCT 61)

ELCT 78B Cisco Networking Academy II 4.0 Units

An introductory course on Cisco router configuration and Cisco's routing protocols. Topics will include Router elements (RAM, ROM, CDP, SHOW), methods of flow control used in networking, control router passwords, and Cisco IOS software commands for router startup. Satisfies Cisco Certified Network Associate (CCNA) certification exam requirements. 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: ELCT 78A)

ELCT 78C Cisco Networking Academy III 4.0 Units

A continuation of Cisco Networking Academy II, covering Virtual Local Area Networks (VLANS) and network switching. Topics will include Interwork Packet Exchange (IPS) address encapsulation types, Interwork Packet Exchange (IPS) access lists and Service Access Points (SAP) filters to control basic Novell traffic, Local Area Network (LAN) segmentation using bridges, Local Area Network (LAN) using routers, and benefits of Virtual Local Area Network (VLAN). Satisfies Cisco Certified Network Associate (CCNA) certification exam requirements. 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: ELCT 78B)

ELCT 78D Cisco Networking Academy IV 4.0 Units

A continuation of Cisco Networking Academy III covering basic Wide Area Networking, Frame Relay, Integrated Services Digital Network (SDN) and Wide Area Network security. Topics will include Wide Area Network Services, Frame Relay terms and feature, configuring Frame Relay, Local Management Interface (LMI), maps and sub-interfaces, Wide Area Network (WAN) data Cisco routers, and Integrated Services Digital Network (ISDN) networking. Satisfies Cisco Certified Network Associate (CCNA) certification exam requirements. 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: ELCT 78C)

ELCT 78E Cisco Networking Academy V 4.0 Units

This is the first of a four course series to prepare students for Cisco's CCNP certification exam. Topics covered include an overview of scalable internetworks, managing IP traffic, configuring queuing to manage traffic, routing protocols, overview, extending IP addresses using VLSMs, configuring OSPF in a single area, interconnecting multiple OSPF areas, configuring enhanced GRP, optimizing routing update operation and configuring BGP. 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: ELCT 78D. Grade Option) This course my be taken four times.

ELCT 78F Cisco Networking Academy VI 4.0 Units

This is the second course of a four course series designed to prepare students for Cisco's CCNP certification. This course will cover the subject of Remote Access. Topics will include the following: an overview of Wide Area Networks (WAN), modems and asynchronous connections, Point to Point Protocol (PPP), Integrated Services Digital Network (ISDN), dial-on-demand routing (DDR), Dialer Profiles, X.25, Frame Relay and Frame Relay Traffic Shaping, WAN Backup Technologies, Queuing and Compression, Network Address Translation (NAT), Authentication, Authorization and Accounting (AAA). 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: ELCT 78D. Cisco's Networking Academy IV) This course my be taken four times.

ELCT 78G Cisco Networking Academy VII 4.0 Units

This is the third of a four course series designed to prepare students for Cisco's CCNP certification. This course will cover the subject of Multilayer Switching. Topics will include the following: Gigabit Ethernet, Switch Administration, Spanning-Tree Protocol, Inter-Virtual Local Area Network (VLAN) Routing, Multilayer Switching (MLS), Cisco Express Forwarding (CEF, Hot Standby Router Protocol, Virtual Trunking Protocol (VTP), Multicasting and Security. 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: ELCT 78C.) This course may be taken four times.

ELCT 78H Cisco Networking Academy VIII 4.0 Units

This is the fourth and last course of a four course series designed to prepare students for Cisco's CCNP certification. This course will cover trouble shooting and diagnostics of advanced and complex network topologies. Topics will include: Routing protocols (RIP, EIGRP, OSPF, ISIS and BGP4), Catalyst Switches, Campus TCP/IP connectivity, VLANs, Giga Ether Channel, HSRP, Port Security, SNMP, multicasting, QoS, ISDN, Frame Relay, X.25 and POTS. 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: ELCT 78D.) This course may be taken four times.

ELCT 78I Fundamentals of Networking Security 4.0 Units

This course is designed for network professionals interested in securing the network infrastructure. The course focuses on securing the network at the perimeter router through the use of the PIX Security Appliance. The Fundamentals of Network Security prepares candidates for the Cisco Firewall Specialist Certification as well as the foundation to the Virtual Private Network (VPN) Specialist Certification, Intrusion Detection System Specialist (IDS) Certification, Cisco Certified Security Professional (CCSP) Certification, Cisco Certified Security Certification (CCSP) and Information Systems Security (INFOSEC) Professional Certification. 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: ELCT 78D.) This course my be taken four times.

ELCT 78J Fundamentals of Wireless LANs 4.0 Units

The Wireless Local Area Network (LAN) course focuses on the design, planning, implementation, operation and troubleshooting of wireless LANs. It covers a comprehensive overview of the technologies, security and the best design practices with particular emphasis on hands on skills in the area of wireless setup and troubleshooting. Topics include: Wireless LAN (WLAN) setup and troubleshooting, 802.11 (a, b and g) technologies, WLAN site surveys, resilient WLAN design and installation, WLAN security, and Vendor inoperability strategies. The course also prepares network professionals for "Cisco Wireless LAN Support Specialist" certificate. 48-54 hours lecture and 48-54 hours laboratory. (Prerequisite: ELCT 78D.) This course my be taken four times.

ELCT 79A Microsoft Certified Systems Engineer 4.0 Units

This is the first of a series of courses required for Microsoft MCSE certification. Topics will include installing Windows 2000 Professional, installing Windows 2000 by using Windows 2000 Server Remote Installation Services (RIS), deploy service packs, manage and troubleshoot access to shared folders, manage shared printers, configure Advance Power Management (APD), encrypt data by using Encrypting Files System (EFS), manage hardware profiles, and configure and troubleshoot TCP/IP protocol. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option.) This course may be taken four times.

ELCT 79B Microsoft Certified Systems Engineer II 4.0 Units

The second in a series of courses required for Microsoft MCSE certification. Topics include: installing and configuring Microsoft Windows 2000 server; unattended installation of Windows 2000 server; Microsoft Windows 2000 file systems and advanced file systems; active directory services; administering Microsoft Windows 2000 server; administering print services; network protocols and services; routing and remote access services; Microsoft Windows 2000 security; monitoring and optimization; Microsoft Windows 2000 application servers. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite Recommended: ELCT 79A Microsoft Certified Systems Engineer. Grade Option)

ELCT 80 Fiber Optics Cabling 3.0 Units

This course is designed to introduce students to fiber optic communications, transfer equipment and cabling. Students will explore fiber optics theory, operation of transfer equipment, assembly and repair of fiber optic cabling. 96-108 hours individualized instruction. (Prerequisite: ELCT 69)

ELCT 81 Soldering Theory and Techniques 1.0 Unit

This hands-on course is designed to provide the student basic soldering theory and techniques. Topics include: soldering theory, types of soldering irons, soldering iron tips, soldering guns, solder connections, and unsoldering techniques. Course includes construction project. 32-36 hours individualized instruction. (No prerequisite)

ELCT 83 Small Office/Home Office (SOHO) Networking 4.0 Units

Small Office/Home Office (SOHO) course is designed for persons with little or no background in networking technologies to setup, operate, maintain and troubleshoot office/home Local Area Network (LAN). Topics include: Networking Components Identification and Installation, Installing, Configuring and Troubleshooting Basic Local Area Networks, wireless Networking, Internet Access and Sharing, SOHO Network Security and Virus Protection, Microsoft Windows 2000/XP Network configuration and Resource Sharing, Video Conferencing for Telecommuters, and VoIP Networking. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option.) This course my be taken four times.

ELCT 84 Computer Networking 3.0 Units

Students learn how to formulate network specifications, install, and maintain local area computer networks (LAN). Topics and activities include: fundamentals and protocols of data communications and communication architectures, selection, preparation, and installation of LAN cabling, network operating systems, and troubleshooting. Students will install and configure modems, connect telephone lines, operate modems, and transfer files. Satisfies computer industries A+ certification requirements. 96-108 hours individualized instruction. (No prerequisite)

ELCT 85 Optoelectronics: Fiber Optics 3.0 Units

This high-technology laboratory course demonstrates the use of fiber optics in a wide range of applications including office copy machines, biomedical instruments, telephone communications, aircraft equipment, consumer products and motor vehicles. Topics include: operation and application of light emitters, detectors, fiber optic cables and associated hardware, data transfer, bar code scanning, and contactless switching. 96-108 hours individualized instruction. (No prerequisite)

ELCT 86 Optoelectronics: Lasers 3.0 Units

Continuation of ELCT 85. This high technology laboratory course emphasizes the principles and applications of lasers as used in telecommunications, consumer electronics, biomedical electronics, and industry. Topics include: Principles of lasers, laser optics, drive and modulation circuits, lasers and fiber optics links, and audio video subcarrier modulation. 96-108 hours individualized instruction. (No prerequisite)

ELCT 87 Industrial Electronics: Industrial Control Systems, Devices and Circuits 3.0 Units

This course is designed to provide the student an opportunity to study a wide range of applications of electronics found in industrial automation and robotics. Topics include: operational amplifiers, linear integrated circuits, generators and motors, control devices and circuits, transducers, programmable logic controllers (PLCs), PLC functions, ladder logic, programming and applications. 96-108 hours individualized instruction. (No prerequisite)

ELCT 88 Industrial Electronics: Industrial Process Control Applications 3.0 Units

This course is designed to demonstrate a wide variety of electronic control systems and circuits which are controlled both manually and by use of the programmable logic controller (PLC). Topics include: motors and generators, control devices, timing control, motor control, counting, position control, servomechanisms, and applications and troubleshooting. 96-108 hours individualized instruction. (No prerequisite).

ELCT 91 Microprocessor Interfacing 3.0 Units

This course is designed to give the student a practical working knowledge of interfacing a microprocessor with external sensing and activator systems. Topics include microprocessor basics, buses, address decoding, 68HC1 I chip structure and internal features, instruction timing, switch decoding, interfacing with displays and adapters, I/O control techniques, data communications, serial/parallel conversion, interfacing to RAM, EPROMs, analog-to-digital and digital-to-analog devices. Offered Fall, Spring, Summer. 96-108 hours individualized instruction. (No prerequisite)

ELCT 92 Microprocessor Applications 3.0 Units

Continuation of Microprocessor Interfacing. This course concentrates on specific applications related to instrumentation and physical measurement. Activities include constructing a microprocessor-controlled digital multimeter (DMM), thermometer, light meter, and photometer. The student will analyze how strain gauges are used to measure force. The student will design and construct a microprocessor/step motor interface and control circuit. 96-108 hours individualized instruction. (No prerequisite)

ELCT 97 Telecommunications: Digital Communications 3.0 Units

This high technology laboratory course is designed to provide a broad background in the use of digital devices used in telephony, as well as in general digital communications. Emphasis is placed on the telephone industry, both wireless and fiber optics telecommunications, and synthetic speech. Topics include: digital communications, the subscriber telephone, the central office, and digitized speech. 96-108 hours individualized instruction. (No prerequisite)

ELCT 99 Telecommunications: Microwave Communications 3.0 Units
This high technology laboratory course is designed to provide a broad background in the use of microwave transmitters, receivers, microwave components, and horn antennas. Emphasis is placed on microwave communication links. Topics include: voice, narrow band, audio wideband, television, video, fiber optics interfaces, pulse code modulation, and multiplexing signals. 96-108 hours individualized instruction. (No prerequisite)

ELCT 110 Survey of Computer Technology 3.0 Units
This course is intended for students who have a general interest in electronics and computer technology, history, and applications. Topics include electronics and computer technology, basic theory of electricity and magnetism, production of electricity and magnetism, control of the electron, electronic and computer components, tools of the trade, troubleshooting, electronic and computer math, applications and operating software. 48-54 hours lecture. CSU. (No prerequisite)

ELCT 131 D.C. Circuit Theory and Analysis 4.0 Units
An in-depth analysis of DC theory and circuit operation. Topics include applications of Ohm's Law, Kirchhoff's Laws and their applications to series, parallel and series-parallel circuits, voltage dividers and bridge circuits, magnetism, electromagnetic induction, and network theorems, and an introduction to alternating voltages and currents. 48-54 hours lecture and 48-54 hours laboratory. CSU. Offered Fall, Spring. (No prerequisite)

ELCT 132 A.C. Circuit Theory and Analysis 4.0 Units
An in-depth analysis of AC circuit theory and circuit operation. Topics include the characteristics of inductors and capacitors and their response in AC circuits, RC and RL time constants, alternating current circuits, complex number analysis, network analysis for AC circuits, resonance, filters. 48-54 hours lecture and 48-54 hours laboratory. CSU. Offered Spring, Summer. (No prerequisite)

ELCT 133 Solid State Devices and Circuits 4.0 Units
Semiconductor theory, algebraic and graphical analysis of semiconductor devices. To include bi-polar and field effect transistors, DC stability design and analysis, small signal parameters and AC equivalent circuits, class A and B power amplifiers, class C and other amplifiers, and frequency effects. 48-54 hours lecture and 48-54 hours laboratory. CSU. Offered Fall. (No prerequisite)

ELCT 134 Solid State Circuit Analysis 4.0 Units
Course focuses on linear-integrated circuits and their use in the design of circuits and instruments. Topics include operational amplifier theory and linear circuits, nonlinear OP-Amp circuits, regulated power supplies, oscillators and timers, thyristors, frequency domain, and frequency mixing. 48-54 hours lecture and 48-54 hours laboratory. CSU. Offered Spring. (No prerequisite)

ELCT 138 Cooperative Education
See Cooperative Education (1 - 8 units). CSU

ELCT 148 Special Topics
See Special Topics listing (Variable units). CSU

ENGLISH

ENGL 6 Basic Reading and Writing 4.0 Units
This is a basic reading and writing course designed to build reading comprehension at both literal and inferential levels and to build proficiency in the basics of writing expository prose. This course emphasizes the connections between reading and writing. 64-72 hours lecture. This course will not apply to the associate degree. (No prerequisite.)

ENGL 8 Reading Improvement 3.0 Units
The course emphasizes the improvement of vocabulary and reading comprehension skills. Course work focuses on comprehension, analysis and evaluation of textbooks and other pre-college level reading materials. Assignments develop study strategies such as textbook marking, test taking and concentration. 48-54 hours lecture. This course will not apply to the associate degree. (No prerequisite)

ENGL 10.0 Laboratory in Writing 1.0 Unit
This lab in the Writing Center is recommended for students taking any writing-intensive course at VVC. Emphasis is on the one-to-one tutorial approach, computer-assisted instruction, and word composing/processing. 48-54 hours laboratory. This course does not apply to the Associate Degree. (No prerequisite. Pass/No Pass.) This course may be taken four times.

ENGL 50 Writing Fundamentals 4.0 Units
A practical writing course emphasizing expository writing, including planning, organizing, composing short essays, reading a variety of college preparatory texts, and editing for punctuation, diction, usage and sentence structure. 64-72 hours lecture. Offered Fall, Spring, Summer. (Prerequisite: ENGL 6 or eligibility as determined by VVC assessment.) This course may be taken two times.

ENGL 50L Laboratory-Enhanced Study For English 50 1.0 Unit
A Laboratory enhanced study concurrent with English 50 for students participating in the Student Support Services program. A practical course supplementing the process and function of expository writing, including a review of spelling, punctuation, diction, usage, and sentence structure. Eight to nine hours lecture and 16-18 hours individualized instruction. (Prerequisites: completion of ENGL 6 with a "C" or better, or Assessment Placement, and referral by Student Support Services. Credit/No Credit) This course may be taken two times.

ENGL 59 Effective Reading and Study Skills 3.0 Units
This reading course focuses on comprehension, retention, and reproduction of main ideas and significant details. Application of reading skills, rate of comprehension, vocabulary, critical thinking, and study skills. 48-54 hours lecture. Offered Fall, Spring, Summer. (Prerequisite: ENGL 6 with a grade of "C" or better or eligibility as determined by VVC assessment.) This course may be taken two times.

ENGL 61 Tutoring Writing 3.0 Units
This course will expose students to the theoretical concepts and practical issues involved in tutoring various levels of writing. Students will develop an understanding of the issues and practices relevant to the role of tutoring writing through observing, reading, and discussing the relationship between the writer, his/her writing, the tutor, the classroom teacher, and the classroom environment. 48-54 hours lecture. (Prerequisite: ENGL 101 with a grade of "C" or better.) This course may be taken four times.

ENGL 62 Writing Tutor Workshop 1.0 Unit
This is an interactive course that analyzes the techniques of tutoring writing. Students will examine the role of writing tutors in one-on-one conferences, discuss tutoring theory, and observe tutors in the Writing Center and/or composition instructors in the classroom. Though this class is meant to prepare students to tutor writing, any student wishing to improve his/her writing skills will benefit from this course. 16-18 hours lecture. (Prerequisite: ENGL 101 with a grade of "C" or better. Credit/No Credit.) This course may be taken four times.

ENGL 65 College Grammar 2.0 Units
This course provides intensive college-level work on grammar, punctuation, and mechanics, providing practice and practical applications. 32-36 hours lecture. (Prerequisite: ENGL 6. Grade Option.) This course may be taken two times.

ENGL 101.0 English Composition and Reading (CAN ENGL 2) 4.0 Units
This course is designed to develop skills in analytical reading and expository writing. It will place particular emphasis on the research process, including the principles and methods of research and composing the research paper. 64-72 hours lecture. CSU, UC. Offered Fall, Spring, Summer. (Prerequisite: Completion of ENGL 50 with a grade of "C" or better or eligibility as determined by VVC assessment.)

ENGL H101 Honors Composition and Reading 4.0 Units
This course emphasizes the basic approaches to writing that will be necessary in college: research, textual analysis, critical applications and discussion of texts and ideas. The class demands greater depth of research and discussion, and emphasizes the seminar approach to learning. 64-72 hours lecture. CSU, UC. (Prerequisite: Completion of ENGL 50 with a grade of "C" or better.)

ENGL 102.0 Composition and Literature 3.0 Units (CAN ENGL 4)
An introduction to the genres of literature including short story, poetry, drama, and novel. Further training in writing especially about literature. 48-54 hours lecture. CSU, UC. Offered Fall, Spring, Summer. (Prerequisite: Completion of ENGL 101.0 with a grade of "C" or better.)

ENGL H102 Honors Composition and Literature 3.0 Units
Further training in writing and introduction to the short story, novel, poetry, and drama. The honors seminar will deepen students' insights into literature and into the process of writing about it. 48-54 hours lecture. CSU, UC. (Prerequisite: Completion of ENGL 101.0 with a grade of "C" or better.)

ENGL 104 Critical Thinking and Composition 3.0 Units
This course is designed to develop the student's critical thinking, reading and writing skills beyond the level achieved in English l01.0. It will focus primarily on the analysis and evaluation of expository and argumentative discourse and on writing analytical and argumentative essays. 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL l01.0 with a grade of "C" or better or eligibility as determined by VVC assessment.)

ENGL H104 Honors Critical Thinking and Composition 3.0 Units
This course is designed to develop the student's critical thinking, reading, and writing skills beyond the level achieved in ENGL 101.0. 48-54 hours lecture. CSU,UC (Prerequisite: completion of ENGL 101.0 with a grade of "C" or better or eligibility as determined by VVC assessment.)

ENGL 109 Creative Writing 3.0 Units (CAN ENGL 6)
Principles of creative expression. Topics may cover fiction, poetry, creative nonfiction, and/or drama. 48-54 hours lecture. CSU,UC. Offered Fall and Spring. (No prerequisite. ENGL 101.0 recommended. Grade Option.) This course may be taken four times.

ENGL 112 Technical Writing 3.0 Units
Principles of effective writing in a variety of formats to suit specific technical audiences. Clarity and accuracy in written communication situations are stressed. Topics include formal and informal reports, special business letters, instructions, and proposals. Designed to simulate the technical writer's job. 48-54 hours lecture. CSU. (Prerequisite: ENGL l01 with a grade of "C" or better)

ENGL 116 Authors of the Theatre 3.0 Units
A survey of playwrights from the Greeks to the present. The selected plays are read, discussed, and analyzed. It is both AA and BA applicable. 48-54 hours lecture. CSU, UC. Offered Fall. See cross listing for TA 116. (No prerequisite)

ENGL 128 Special Topics
See Special Topics listing (Variable units). CSU, UC

ENGL 129 Independent Study
See Independent Study (1-3 units). CSU

ENGL 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

ENGL 149 Critical Reading and College Study Skills 3.0 Units
A college reading course emphasizing interpretive, analytical, and evaluative abilities required for academic reading; college vocabulary, research, and study skills. 48-54 hours lecture. CSU. Offered Fall, Spring, Summer. (Prerequisite: ENGL 59 with a grade of "C" or better)

ENGL 162 Native American Literature 3.0 Units
An introduction to Native American literature from the oral tradition to contemporary writing. Study of myths and legends, traditional oral narratives and songs, transitional forms such as oration and autobiography, and written genres (poem, short story, novel). 48-54 hours lecture. CSU, UC. (No prerequisite; ENGL l02 is recommended.)

ENGL 210 Fiction Writing 3.0 Units
Principles of writing advanced fiction, focusing on the short story and the novel. 48-54 hours lecture. CSU, UC (Prerequisite: ENGL 109. Grade Option.)

ENGL 211 Poetry Writing 3.0 Units
A workshop-style course which includes a review of forms, poetic techniques, and revision strategies. 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL 109. Grade Option.) This course may be taken four times.

ENGL 220 Modern Fiction 3.0 Units
Twentieth century literature, both English language and translated sources, emphasizing novels and short stories. 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL 102.0 with a minimum grade of 'C'. Grade Option.) This course may be taken two times.

ENGL 225 Poetry 3.0 Units
British and American poetry with consideration of versification, structure, imagery, diction, themes, and genres. 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL l02 with a grade of "C" or better)

ENGL 230 Survey of American Literature 1600-1865 (CAN ENGL 14) 3.0 Units
A survey of exemplary items in the origin and development of American thought and culture from 1600 to 1865. Designed to provide an understanding and appreciation of American literary achievements through study of the works of writers including Bradford and Bradstreet, Edwards and Wheatley, Franklin, Irving, Poe, Stowe and Emerson. Also includes a study of Native-American folk tales and slave narratives. 48-54 hours lecture. CSU, UC. (Prerequisite: Completion of ENGL 102 with a grade of "C" or better)

ENGL 231 Survey of American Literature 1865 to Present 3.0 Units
A survey of exemplary items in the origin and development of American thought and culture from 1865 to the present. Designed to provide an understanding and appreciation of American literary achievements through study of the works of great writers including Whitman, Dickinson, Twain, Frost, Welty, Thurber, Tan and others. 48-54 hours lecture. CSU, UC. (Prerequisite: Completion of ENGL 102 with a grade of "C" or better)

ENGL 232 Chicano/a and Latino/a Literature 3.0 Units
Introduction to the Mexican/American/Latino/a cultural experience through literary analysis of fiction, poetry, drama, and the essay. Studies literature in the context of literary/historical-political growth of Mexican/American/Latino/a identity and of current theories of analyzing multicultural writings. 48-54 hours lecture. CSU, UC. (Prerequisite: English 101)

ENGL 233 African American Literature 3.0 Units
An introductory survey course of African American oral and written literary traditions with consideration of historical and cultural roots. 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL 102 with a grade of "C" or better)

ENGL 235 Children's Literature 3.0 Units
A survey of children's literature, emphasizing folktales, narrative fiction, poetry and some non-fiction works. Also includes the history and development of literature and illustration for children, the selection of materials for various age groups, and literature and the media. 48-54 hours lecture. CSU. Offered Spring. (Prerequisite: ENGL 101 with a grade of "C" or better)

ENGL 240/241 World Literature 3.0 Units
Masterpieces in translation from earliest times through the Renaissance (240), and from the Neoclassical to modern times (241). 48-54 hours lecture. CSU, UC. ENGL 240 offered Fall semester every third year. (Prerequisite: ENGL 102 with a grade of "C" or better)

ENGL 245 Survey of English Literature 3.0 Units (CAN ENGL 8)
A survey of major writers from the Middle Ages to 1800, including an examination of language development, historical backgrounds, and literary trends; special consideration of Chaucer, Spenser, Marlowe, Shakespeare, Bacon, Donne, Milton, Dryden, and Pope. 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL l02 with a grade of "C" or better)

ENGL 246 Survey of English Literature 3.0 Units (CAN ENGL 10)
A survey of major British writers of poetry, drama, fictional and nonfictional prose from 1800 to the present. 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL l02 with a grade of "C" or better)

ENGL 247 Shakespeare 3.0 Units
An introduction to Shakespeare's work through a study of his principal plays and sonnets. 48-54 hours lecture. CSU, UC. (Prerequisite: ENGL l01.0 with a grade of "C"or better)

ENGLISH AS A SECOND LANGUAGE (ESL)

VVC offers a wide variety of noncredit ESL classes at lower levels, from low beginning to advanced level. Please consult the Class Schedule for a description of these classes, along with times and locations.

ESL 3 Low Beginning Reading and Writing 4.0 Units
Students at this level demonstrate little or no competence in communicating through writing and little or no control of vocabulary, grammar and sentence structure. Course is designed to teach students basic alphabet and phonics, and to read and write simple stories. Students will copy text and/or generate words or simple phrases; develop awareness of appropriate word choice or correct form; write simple sentences in thematic units. 48-54 hours lecture and 48-54 hours laboratory hours. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit) This course may be taken two times.

ESL 5 Beginning Listening and Speaking 3.0 Units
This course is designed for the non-native speaker of English who has no ability or very little competence in speaking and listening. Emphasis is on developing students' ability to listen and understand basic English. Nonverbal social customs are taught; nonverbal behavior and cross-cultural communication are taught implicitly through modeling, interaction and demonstration. 32-36 hours lecture and 48-54 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit) This course may be taken two times.

ESL 12A Basic Computer Literacy 3.0 Units
This is a three part course in ESL Computer Literary for non-native speakers of English. The focus of the course is to develop language skills related to computer usage. Students will learn computer uses for ESL courses and educational purposes. 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass.) This course may be taken two times.

ESL 12B Basic Computer Literacy 3.0 Units
This course is designed for non-native speakers of English. The focus of the course is to expand and develop basic computer knowledge for ESL educational purposes. 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Recommended preparation: Completion of ESL 12A is strongly recommended. Pass/No Pass.) This course may be taken three times.

ESL 13 High Beginning Reading and Vocabulary 3.0 Units
This course is designed for the non-native speakers of English with some competence in reading and vocabulary. The course focuses on reading abilities through the enhancement of vocabulary skills and cultural awareness. Emphasis is placed on developing a life-long ability to read for pleasure. American culture is introduced through newspapers, folk tales, short stories and cross-cultural readers. 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit) This course may be taken two times.

ESL 23 Pre-Intermediate Reading and Vocabulary 2.0 Units
This course focuses on development and practice of fundamental reading and vocabulary skills to prepare students who plan to continue their post-secondary education. Reading skills include understanding new vocabulary in context and scanning for specific information. Students read simplified texts on academic and vocational subjects. 32-36 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit) This course may be taken two times.

ESL 25 Pre-Intermediate Listening and Speaking 3.0 Units
Course is designed for non-native speakers of English. This course focuses on fundamental speaking and listening skills for ESL students who have a basic knowledge of common English words and phrases. Students learn to understand short spoken passages, including questions and warnings. Speaking skills include describing familiar situations and events, such as giving basic information on the telephone. 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass.) This course may be taken two times.

ESL 27 Pre-Intermediate Writing and Grammar 2.0 Units
This course focuses on fundamental writing and grammar skills for ESL students who have a basic knowledge of common English words, phrases, and structure. Students write at the sentence and paragraph level. They learn to organize ideas and edit for grammar, spelling, and punctuation. 32-36 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit.) This course may be taken two times.

ESL 30A Intermediate Pronunciation I 3.0 Units
This course is designed for non-native speakers of English who require further practice and instruction in pronunciation. Class will help improve communication skills and achieving clear speech for success in everyday situations, workplace and school settings. This class will focus on introducing sounds of vowels and consonants and their combinations. It will introduce the basic features of English stress, rhythm and intonation. 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Recommended preparation: Completion of ESL 12A is strongly recommended. Pass/No Pass.) This course may be taken two times.

ESL 30B Intermediate Pronunciation II 3.0 Units
This course is designed for non-native speakers of English at the high intermediate and/or advanced level of ESL. Designed for students whose speech is continuing to cause communication difficulties at work, school, or in social situations. Students practice listening, rhythm, intonation and pronunciation. 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass.) This course may be taken three times.

ESL 33 Reading and Vocabulary 3.0 Units
A reading course for low intermediate ESL students emphasizing main ideas, outlining, and vocabulary in context. This course will not apply to the Associate Degree. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite. It is recommendation that students should already have basic skills in decoding information and understanding at a literal level. They should be able to read and understand short, authentic texts such as letters and instructions. Credit/No Credit) This course may be taken three times.

ESL 33B High Intermediate Reading and Vocabulary 4.0 Units
This course is designed for non-native speakers of English who have intermediate proficiency in reading and writing English. Students will learn a variety of reading and vocabulary developmental strategies for college success. Students will learn to access a variety of technology based reading resources to further develop their reading skills. 64-72 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Recommended preparation: ESL 33. Pass/No Pass.) This course may be taken two times.

ESL 34 High Intermediate English Skills at the Workplace 3.0 Units
This course is designed for non-native speakers of English who wish to strengthen business communication skills. Course focus is on cultural differences, social etiquette, business idioms, and some business writing. Emphasis on developing fluency and comprehension. 48-54 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Pass/No Pass.) This course may be taken two times.

ESL 35A Low Intermediate Listening and Speaking 3.0 Units
This course is designed for non-native speakers of English. Course focus is on casual and formal dialogues in commonplace situations, everyday language functions and conversation skills. Students learn common courtesy expressions, clarification strategies, idiomatic expressions and grammatical patterns in English. 48-54 hours lecture. This course will not apply to the Associate degree. (No prerequisite. Pass/No Pass.) This course may be taken two times.

ESL 35B High Intermediate Listening and Speaking 3.0 Units
This course focuses on speaking and listening skills for students at high intermediate level of English. Students practice a variety of conversational and listening strategies and engage in discussions. Through role play, and simulation exercises, students learn to express opinions and reach agreement. 32-36 hours lecture and 48-54 hours laboratory. This course will not apply to the Associate degree. (No Prerequisite. Credit/No Credit.) This course may be taken two times.

ESL 37 Intermediate Grammar 3.0 Units
Students at this level learn and apply rules of English grammar and structure for use in oral and written communication. This course provides practice in areas such as common verb tenses, question forms, and expressions of ability, permission and advice. This course will not apply to the Associate Degree. 48-54 hours lecture. (No prerequisite. Grade Option) This course may be taken four times.

ESL 37A Low Intermediate Writing and Grammar 3.0 Units
This course helps students at low intermediate level develop writing and grammar skills appropriate for educational and personal success. Students write short compositions on familiar topics. They learn to apply principles of grammar as they write. 32-36 hours lecture and 48-54 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit.) This course may be taken two times.

ESL 37B High Intermediate Writing and Grammar 3.0 Units
This course helps students at high intermediate level develop writing and grammar skills appropriate for educational and personal success. Students write short compositions on a variety of topics. They learn to apply principles of grammar as they write. 32-36 hours lecture and 48-54 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit.) This course may be taken two times.

ESL 38 High Intermediate Grammar 3.0 Units
Students at high intermediate level learn and apply rules of English grammar and structure for use in oral and written communication. This course provides practice in areas such as description using adjectives and adverbs, use of gerund and infinitive forms of verbs, certain modals, and nouns and articles. This course will not apply to the Associate Degree. 48-54 hours lecture. (No prerequisite. Grade Option) This course may be taken four times.

ESL 40A Low Advanced Pronunciation 3.0 Units
This course is the first in a series of two classes for non-native speakers of English wanting to improve their pronunciation skills in English. Students will learn to effectively improve pronunciation for clear and effective communication in social, academic, or job settings. Through structured activities, direct instruction, and lab work, students will be able to improve their skills in those areas that comprise pronunciation, rhythm patterns, and stress. This course will not apply to the Associate Degree. 48-54 hours lecture. (No prerequisite. Recommended preparation: ESL 30B highly recommended. Some internet skills advised. Grade Option) This course may be taken two times.

ESL 43 Low Advanced Reading and Vocabulary 3.0 Units
This is the first of two courses designed for non native speakers of English who are approaching advanced level of proficiency in reading English. Emphasis is on further developing reading and vocabulary skills. Students are introduced to a variety of reading genres, word structure, vocabulary, and reading strategies. This course will not apply to the Associate Degree. 48-54 hours lecture. (No prerequisite. Credit/No Credit only.) This course may be taken two times.

ESL 43B High Advanced Reading and Vocabulary 4.0 Units
This course is designed for non-native speakers of English. Skills include developing essays form longer reading passages. Students will respond to reading passages, reinforce vocabulary building and comprehension. This course will not apply to the Associate Degree. 64-72 hours lecture. (No prerequisite. Grade Option.) This course may be taken two times.

ESL 45A Cross Cultural Communication Skills 3.0 Units
This course is designed for non-native speakers of English who wish to understand cultural differences of North American society. Course focus is on broadening intercultural understanding for students living and working in the USA. Topics focus on different aspects of mainstream North American cultures encountered in a work or social setting. This course will not apply to the Associate Degree. 48-54 hours lecture. (No prerequisite. Grade Option.) This course may be taken two times.

ESL 47 Advanced Grammar 3.0 Units
Students at advanced level learn and apply rules of English grammar and structure for use in oral and written communication. This course provides review practice and expanded study of verb tenses, gerunds and infinitives, modals, and tag questions. This course will not apply to the Associate Degree. 48-54 hours lecture. (No prerequisite. Grade Option) This course may be taken four times.

ESL 48 High Advanced Grammar 3.0 Units
Students at high advanced level learn and apply rules of English grammar and structure for use in oral and written communication. This course provides review practice and expanded study of phrasal verbs and introduces passive forms, conditional statements, adjective clauses, and indirect speech. This course will not apply to the Associate Degree. 48-54 hours lecture. (No prerequisite. Grade Option) This course may be taken four times.

FIRE TECHNOLOGY

FIRE 1 Fire Command 1C - I-Zone Fire Fighting for Company Officers 2.0 Units
The course is designed around the responsibilities of the Company officer at a wildland/urban interface incident. It will bring the structural Company Officer out of the city and into the urban/interface incident. In other words, from his or her comfort zone into an area that could very well be quire unfamiliar. This course is required for Fire Officer Certification by the Office of the State Fire Marshal. 32 hours lecture and six hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: FIRE 72, Fire Command 1A and FIRE 66, I-200 Basic ICS. State mandated.) This course may be taken four times.

FIRE 3A Certified Volunteer Fire Fighter 3.0 Units
The course, the first of two courses, is designed to prepare the student with information and skill development necessary to perform the tasks of a certified volunteer fire fighter within California. Provides a foundation of information and skill development necessary to enter college level courses in fire technology and/or a career in the fire service. Students must complete FIRE 3A and FIRE 3B to qualify for state certificate. 32-36 hours lecture and 64-72 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: Must pass sport participation examination prior to entrance into class. State mandated. Grade Option.)

FIRE 3B Certified Volunteer Fire Fighter 3.0 Units
The second of two courses, is designed to prepare the student with information and skill development necessary to perform the tasks of a certified volunteer fire fighter within California. Provides a foundation of information and skill development necessary to enter college level courses in fire technology and/or a career in the fire service. Students must complete FIRE 3A and FIRE 3B to qualify for state certificate. 32-36 hours lecture and 64-72 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: Must pass sport participation examination prior to entrance into class. State mandated. Grade Option.)

FIRE 4A Fire Fighter II Academy 1.5 Units
This is a series of lectures and manipulative drills designed to enhance and improve the fire fighter student's skills in fire behavior, forcible entry, vehicle fire fighting, flammable gases and liquids fire fighting techniques, handling massive casualty incidents and performance testing techniques. Designed for today's paid call and career fire fighter seeking full-time employment and/or advancement within a public or private fire protection organization. 16-18 hours lecture and 32-36 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: FFI status, or completion of FFI Academy [FIRE 95], or recommendation of training officer from a fire protection organization. Credit/No Credit.) This course may be taken four times.

FIRE 4B Response to Terrorism 1.0 Unit
This course will introduce the fire fighter student to the basic concepts for first awareness at the scene of a potential or actual terrorist incident and discusses safety and survival tactics. 16-18 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit)

FIRE 5B Fire Command 2B-Management of Major Hazardous Materials 2.0 Units
This course prepares the fire fighting student with the information necessary to successfully manage a major hazardous materials incident within their jurisdiction. Areas of discussion include: information and data bases for hazardous materials; organizations, agencies and institutions involved with hazardous materials response and research; planning for your community's hazardous materials problems; legislation, litigation and liabilities of hazardous materials responses. 32-36 hours lecture. This course will not apply to the Associate Degree. (No prerequisite)

FIRE 5C Fire Command 2C-High Rise Fire Tactics 2.0 Units
This course prepares the fire fighter student to manage a fire in small and large high rise buildings. Topics of discussion include: pre-fire planning; building inventory; problem identification; ventilation methods; water supply; elevators; life safety; fire fighting strategy and tactics; application of Incident Command System (ICS); and specific responsibilities of fire ground personnel. Case studies and simulation are features. Applicable to large and small fire departments. 32-36 hours lecture. This course will not apply to the Associate Degree. (No prerequisite)

FIRE 5D Incident Command System - Scene Manager 1.5 Units
This course provides important information needed for operating as a scene manager (incident commander) within the Incident Command System (ICS). Subjects include: incident briefing, incident planning, incident management, unified command, and incident demobilization. 24-27 hours lecture. This course will not apply to the Associate Degree. (No prerequisite)

FIRE 5E Strike Team Leaders, Dozers (S-335) 1.0 Unit
This course prepares the fire fighter student to work as a strike team leader in charge of a task force or strike team of dozers for wild land fire control within the incident command system. This fire fighter course discusses duties, responsibilities, procedures and materials involved in the operation of the dozer strike team and the function of the strike team leader. National Wild Land Coordinating Group certified. Certification fee $5. This course will not apply to the Associate degree. 16-18 hours lecture. This course will not apply to the Associate Degree. (Prerequisites: ICS-100, 200, 300/State mandated. Credit/No Credit) This course may be taken four times.

FIRE 5F Inmate Fire Crew Supervisor 3.0 Units
This course prepares the fire fighter student with the skills and information necessary to work within the Incident Command System (ICS) as an inmate fire crew supervisor. Responsibilities, duties and materials required to operate and manage an inmate fire crew are presented. Wild land fire tactics and strategies for hand crews and hand crew fire safety are feature. National Wild Land Coordinating Group certified. $5.00 certification fee. 32-36 hours lecture and 32-36 hours laboratory. This course will not apply to the Associate Degree. (Prerequisites: FIRE 66, FIRE 86, ICS-100, 200, 300/State Mandated. Credit/No Credit) This course may be taken four times.

FIRE 5G S-356 Supply Unit Leader 1.0 Unit
This course provides the fire fighter student with information to perform the tasks of the Supply Unit Leader within the Incident Command system (ICS). CDF certified. Northwest Coordinating Group approved. 16-18 hours lecture. This course will not apply to the Associate Degree. (Prerequisites: I- 300, S-301. State Mandated. Credit/No Credit) This course may be taken four times.

FIRE 5H Food Unit Leader 1.5 Units
This course prepares the fire fighter student with the skills and information necessary to work within the Incident Command System (ICS) as a food unit leader. Responsibilities, duties and materials required to operate and manage a food unit are presented. National Wild Land Coordinating Group certified. 16-18 hours lecture and 12 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: FIRE 66, FIRE 86, ICS-100, 200, 300/State mandated. Credit/No Credit) This course may be taken four times.

FIRE 5I Ground Support Unit Leader 2.0 Units
This course prepares the fire fighter student to work as a ground unit leader within the Incident Command System (ICS). Responsibilities of the ground unit leader, procedures and materials involved with the operation and function of the ground support unit are discussed. National Wild Land Coordinating Group certified. Certification fee is $5. 32-36 hours lecture. This course will not apply to the Associate degree. (Prerequisite: FIRE 86/State mandated. Credit/No Credit) This course may be taken four times.

FIRE 5.1J Volunteer Fire Officer's Academy 2.0 Units
This course is designed to provide the information and skills necessary for the fire fighter/and or driver operator who desire to promote to the rank of company officer; for company officers who desire to remain current with innovative management, leadership and human relations techniques; and for training officers who are responsible for teaching and developing officers and future officer candidates. This course is designed for the fire fighter student with essential fire fighter skills. 32-36 hours lecture. This course will not apply to the Associate degree. (No prerequisite) This course may be taken three times.

FIRE 6A Basic Fire Engine Operation Academy, CDF 3.5 Units
This course provides the student with the information and skills to safely drive and operate fire apparatus and fire pumps and provide initial attack incident control capabilities according to California Department of Forestry standards and policies. 48-54 hours lecture and 64-72 hours laboratory. This course will not apply to the Associate Degree. (Prerequisites: Successful completion of Basic Forest Firefighter course, valid class B (commercial or firefighter) California Driver's license with Tank and Air Brake Endorsements; successful completion of Hazardous Materials First Responder, Operational. State mandated. Credit/No Credit.) This course may be taken four times.

FIRE 6B Fire Attack I: Set Standard For Excellence on the Fire Ground 1.0 Units
Fire Attack I is designed to provide the fire fighter with the latest information, tactics and strategies for combating structural fire incidents. Focus is on the decisions and responsibilities the first arriving company officer must consider to successfully mitigate the incident. This class will not apply to the Associate degree. 16-18 hours lecture. (Prerequisites: Employment with a recognized fire protection agency in a position of company officer or acting company officer, or enrollment within the fire officer certification program accredited by California Fire Services Training and Education System (CFSTES) or National Fire Protection Association (NFPA) Standard 1021, Fire Officer Professional Standards. Grade Option) This class may be taken four times.

FIRE 6C Leadership Fundamentals 2.0 Units
This course is designed to prepare the fire fighter student within the California Department of Forestry to take a new position of company officer by providing skills in supervision and management. Topics include motivation, communication, discipline, leadership, time management and team building. This course will not apply to the Associate degree. 32-36 hours lecture. (No prerequisite. Credit/No Credit) This course may be taken again only with a grade of "D" or lower.

FIRE 7 First Responder - Medical 2.0 Units
This course provides manipulative and technical instruction in emergency care procedures, including examining the victim, observing the surroundings, maintaining an airway, controlling bleeding, treating shock, childbirth emergencies, performing manual lifts and carries, and interfacing with emergency medical technicians and paramedics. This course meets present public safety emergency care requirements for fire service personnel. 32-36 hours lecture and ten hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit)

FIRE 7A First Responder Medical, Refresher 1.0 Unit
A 24-hour refresher course approved by the State Board of Fire Services and California State Fire Training for Recertification of first responders to medical emergencies. 16-18 hours lecture and eight-nine hours laboratory. This course will not apply to the Associate Degree. (No Prerequisite. Credit/No Credit) This course may be taken four times.

FIRE 8B Emergency Medical Technician, Refresher 0.5 Unit
A 24-hour refresher course for fire service students who require recertification for Emergency Medical Technician I, State Fire Marshal or Fire Service certificates who do not operate ambulances or transport patients. Course approved by the State Board of Fire Services and State Fire Marshal's office. Eight-nine hours lecture and 16-18 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: Must possess valid EMT I, State Fire Marshal's certificate-State regulation. Credit/No Credit) This course may be taken four times.

FIRE 8C EMT-ID, Defibrillation 0.5 Unit
This course will provide the Emergency Medical Technician (EMT 1) training in the skill of defibrillation (D). Course content is based on California State Department of Health requirements, as delineated in title 22 of the California Administrative Code, Division 9, Chapter 2, Section 10064. Eight-nine hours lecture. This course will not apply to the Associate Degree. (Prerequisites: possess a current Basic Care Life Support (BCLS) card, possess certification as an EMT 1, and be currently employed with an approved EMT I D provider. State mandated. Credit/No Credit)

FIRE 9 Fire Control III, Structural Fire Fighting, Instructor 2.0 Units
This 32-hour course prepares the fire fighter student to manage and conduct a state certified Fire Control III training exercise. Designed for fire department training officers and training staff, this course assumes a basic knowledge of fire fighting skills and organizational concepts. 32-36 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit)

FIRE 9A Fire Control IV, Oil and Gas Fire Fighting Techniques 0.5 Unit
This course provides the fire fighter student with live fire situations to gain skills and experience in combating fires involving liquefied petroleum gas and flammable liquids. Subjects include flammable liquid fire behavior, safety on the fire ground, extinguishing agents, flammable liquid/gas transportation vehicles, water-flow requirements and actual fire extinguishing exercises. A basic knowledge of fire fighting skills and knowledge plus access to appropriate safety equipment and clothing is presumed. Eight-nine hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit)

FIRE 10 Fire Fighter Skills Maintenance 4.0 Units
A series of lectures and manipulative drills designed to provide maintenance of skills learned, including updates in technology relating to fire department organization, hoses, ladders, tools and equipment, salvage, fire chemistry, extinguishers and agents, fire control, prevention, arson, crowd and traffic control, mutual aid, communications, fire safety and emergency rescue techniques. 32-36 hours lecture and 96-108 hours laboratory. This course will not apply to the Associate Degree. (Prerequisite: FIRE 100 and FIRE 90 or FIRE 95 or equivalent. Employment as career fire fighter or paid call fire fighter recommended)

FIRE 10A Skills Maintenance For Paid Call Fire Fighter 1.5 Units
A series of lectures and manipulative drills designed to provide maintenance of skills learned, including updates in technology relating to fire department organization, hoses, ladders, tools and equipment, salvage, fire chemistry, extinguishers and agents, fire control, prevention, arson, crowd and traffic control, mutual aid, communications, fire safety and emergency rescue techniques. 16-18 hours lecture and 32-36 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite)

FIRE 10B Wildland Fire Fighter's Skills Maintenance 1.5 Units
This course provides the fire fighter student with new information and skill development to maintain efficiency and effectiveness as a wildland fire fighter. New protocols, procedures and equipment are presented and student demonstrates proficiency in using tools, tactics and strategies for fire control. 16-18 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (Prerequisites: Employment as a wildland fire fighter or fire fighter serving a community with wildland or interface fire conditions. State mandated. Credit/No Credit.) This course may be taken four times.

FIRE 10C Company Officer's Skills Maintenance 1.5 Units
This course provides the fire fighter company officer student with new information and skill development to maintain efficiency and effectiveness as a company officer and fire fighter. New policies, procedures and equipment are presented and student demonstrates proficiency in using tools, tactics and strategies for managing personnel, budgets and legal responsibilities in today's fire service. 16-18 hours lecture and 24-27 hours laboratory. (Prerequisites: Employment as a fire company officer in a modern fire service agency. State mandated. Credit/No Credit) This course may be taken four times.

FIRE 10D Hand Crew Fire Fighter Skills Maintenance 1.5 Units
This course provides the fire fighter student with new information and skill development to maintain efficiency and effectiveness as a wildland hand crew fire fighter. New policies, procedures and equipment are presented and student demonstrates proficiency in using tools, tactics and strategies for constructing and maintaining a fire line and other related fire control tactics and operations. CDF certified. 16-18 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (Prerequisites: Employment as a hand crew fire fighter with a modern fire service agency. State mandated. Credit/No Credit.) This course may be taken four times.

FIRE 11 Low Angle Rescue 1.0 Unit
This course is designed to equip the student with the information, techniques and methods for utilizing rope, webbing, hardware friction devices, and litters in low angle rescue situations. Topics include rope and related equipment, anchor systems, safety lines, stretcher lashing and rigging, mechanical advantage, single line and two line rescue systems. This course is designed for the fire fighter student with essential fire fighting skills. 16-18 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit)

FIRE 11A Rescue Systems I 1.5 Units
The 40-hour State Fire Rescue Systems I course is designed to provide the student with the ability to apply basic search and rescue skills, approach rescue situations safely and understand the organizational concerns at a structural collapse incident. Upon completion of the course, the student will receive a California State Fire Marshals Certificate, which is the basic requirement for other rescue classes. This course will not apply to the Associate degree. 24-27 hours lecture and 16-18 hours laboratory. (No prerequisite. Credit/No Credit) This course may be taken again only with a grade of "D" or lower.

FIRE 11B Confined Space Awareness 0.5 Unit
This course provides the fire fighter student with the definitions and conditions that constitute a confined space situation. Information on how those conditions create hazards and impact the fire fighter plus principles of confined space safety are featured. This course will not apply to the Associate degree. Eight-nine hours lecture. (No prerequisite. Credit/No Credit) This course may be taken again only with a grade of "D" or lower.

FIRE 15 S-244, Field Observer/ Display Processor 1.5 Units
This course provides the fire fighter student with the information to perform the duties, responsibilities, procedures and to utilize the appropriate materials when acting as the field observer/display processor within the Incident Command System (ICS). North West Coordinating Group certified. 24-27 hours lecture and 16-18 hours laboratory. This course will not apply to the Associate Degree. (Prerequisites: FIRE 60G. State mandated. Credit/No Credit)

FIRE 16 Technical Specialist, Crew 1.0 Unit
This course provides the fire fighter student with the information to perform the position of Technical Specialist for hand crews when operating within the Incident Command System (ICS). California Department of Forestry certified. 16-18 hours lecture and 24-27 hours laboratory. This course will not apply to the Associate Degree. (Prerequisites: FIRE 66.1. State mandated. Credit/No Credit) This course may be taken four times.

FIRE 17 Basic Fire Crew, Captain 2.0 Units
This course is designed for the recently appointed fire crew captain assigned to camp programs. The course will focus on group dynamics, supervision techniques, recognizing gang symbology and signals, Department of Corrections regulations, fire crew configurations and tactics. CDF certified. 32-36 hours lecture. This course will not apply to the Associate Degree. (Prerequisite: Appointment to the fire crew captain position. State mandated. Credit/No Credit) This course may be taken four times.

FIRE 18 Class A Foam Operations 1.0 Unit
This course is an introduction to Class A fire fighting foams used on wildland fires. Classroom principles and field application techniques are featured. CDF certified. 16-18 hours lecture. This course will not apply to the Associate Degree. (Prerequisites: FIRE 80. State mandated. Credit/No Credit) This course may be taken four times.

FIRE 20 I-333 Strike Team Leader, Crew 1.0 Unit
This course will provide the fire fighter student with the information necessary to perform as a strike team leader in charge of a hand crew at wildland fire suppression operations. 16-18 hours lecture. This course will not apply to the Associate Degree. (No prerequisite.) This course may be taken four times.

FIRE 21 California Department of Forestry Firing Officer S-234 1.5 Units
This course is designed to train fire fighter supervisors who have a need to know how to set a fire or backfire to accomplish fire containment and control in wildland fire suppression. 24-27 hours lecture and 16-18 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite.) This course may be taken four times.

FIRE 21A Firing Methods and Procedures 1.5 Units
This course provides the fire fighter student with information about firing techniques and related firing devices used in wild land fire suppression. Includes basic safety instructions and procedures to follow when immediate and unplanned back firing or burning out of an area is deemed necessary for wild land fire control. CDF certified. North West Coordinating Group approved. 24-27 hours lecture. This course will not apply to the Associate Degree. (Prerequisites: FIRE 66, FIRE 80A. State mandated. Grade Option)

FIRE 26 S-205, Interface Operations 1.0 Unit
This course is designed to prepare the fire fighter student with the skills and techniques to fill the training needs for initial attack commanders and company officers confronting wild land fires that threaten life, property, and improvements within the interface areas of southern California. Topics include: size-up, initial strategy and action plan, structure triage, action plan assessment, public relations and safety. 12 hours lecture and 12 hours laboratory. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit) This course may be taken four times.

FIRE 27 S-403, Information Officer 2.0 Units
This course is designed to prepare the fire fighter student with the skills and techniques to fill the Incident Command System (ICS) position of Information Officer. Topics include duties and responsibilities of the Information Officer, working with the media, working with the public and other agencies. 32-36 hours lecture. This course will not apply to the Associate Degree. (Prerequisite: FIRE 66 and FIRE 86. State mandated. Credit/No Credit) This course may be taken four times.

FIRE 28 I-342, Document Unit Leader 0.5 Unit
This course is designed to provide skills that enable the fire fighter student to perform the position of Document Unit Leader within the Incident Command System (ICS). Procedures of the Document Unit Leader, responsibilities and materials required are presented. Eight-nine hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit) This course may be taken four times.

FIRE 29 S-430, Operations Section Chief 2.0 Units
This course is designed to prepare the fire fighter student with the skills and techniques to fill the Incident Command System (ICS) position of Operations Section Chief. Topics discussed include: information gathering, interaction with the command staff and general staff, incident action plan development, operation period briefing, daily schedule, and demobilization. 32-36 hours lecture. This course will not apply to the Associate Degree. (Prerequisite: I-300, S290, Certification as Strike Team Leader or Division Supervisor. State mandated. Credit/No Credit) This course may be taken four times.

FIRE 30 Instruction Techniques for Company Officers 1.0 Unit
A National Fire Academy course for fire fighter students who want to improve their skills in training fire fighters and students of fire safety including the public. Applies toward National Fire Protection Association Standard 1041, Professional Qualifications of Fire Service Instructors. 16-18 hours lecture. This course will not apply to the Associate Degree. (No prerequisite.) This course may be taken four times.

FIRE 30A National Fire Academy Public Fire Education Planning 1.0 Unit
This National Fire Academy course is designed to provide the fire fighter student with the information and concepts to provide a successful public fire safety education program within their community. 16-18 hours lecture. This course will not apply to the Associate Degree. (No prerequisite.) This course may be taken four times.

FIRE 33 Fire Line Emergency Medical Technician (EMT) Academy 1.0 Unit
This course is designed to prepare the fire fighter EMT to safely operate at a major wild land fire incident at the fire line location. Topics discussed include duties and responsibilities of the fire line EMT, equipment needs, helicopter safety, incident command system organization, and review of treatment for common fire line injuries and use of makeshift aids. Twelve hours lecture and 12 hours laboratory. This course will not apply to the Associate Degree. (Prerequisites: Current EMT certification and employment in public or private fire service organization. State mandated. Credit/No Credit) This course may be taken four times.

FIRE 40 Fire Fighter Entrance Examination Techniques 3.0 Units
This course is designed to prepare the student to take and successfully pass the entrance level fire fighter examination process. Topics discussed include: seeking employment opportunities, the application process, the various examinations given to applicants, oral interviews, and other aspects of the examination process. 48-54 hours lecture. This course will not apply to the Associate Degree. Offered Fall, Spring (No prerequisite. Grade Option) This course may be taken two times.

FIRE 40A Fire Fighter Physical Agility Entrance Examination Techniques 1.0 Unit
This course is designed to prepare the student to take and successfully pass the entrance level fire fighter physical agility examination through physical conditioning and specificity training. Emphasis on physical conditioning and exercise. 48-54 hours lecture. This course will not apply to the Associate Degree. Offered Fall, Spring. (No prerequisite. Credit/No Credit) This course may be taken four times.

FIRE 40F Building Construction for Fire Suppression Forces/Wood/Ordinary 1.0 Unit
This course provides the fire fighter student with the principles of wood and ordinary construction as they apply to the fire service. The primary emphasis is on improving the fire fighters ability to ensure fire safety on the fire ground by recognizing common causes and indicators of building failure, collapse and other hazards related to building construction. Designed to improve the operational effectiveness of the fire officer and fire fighter by being able to predict the overall reaction of a building to fire conditions. 16-18 hours lecture. This course will not apply to the Associate Degree. (No prerequisite. Credit/No Credit)

FIRE 50 Fire Service Supervision - Increasing Personal Effectiveness 1.0 Unit
This National Fire Academy course is designed to increase the fire fighter student's effectiveness as a manager and a leader by presenting current research on management, leadership, stress, and time management and explaining how to adapt this information to their own specific management context. Accredited by State Fire Marshal's Office. 16-18 hours lecture. (No Prerequisite. Credit/No Credit) This course may be taken four times.

FIRE 51 Fire Service Supervision - Increasing Team Effectiveness 1.0 Unit
This National Fire Academy approved course is designed to increase the student's effectiveness as team leaders and members of the fire service by demonstrating how communication, motivation, counseling, and the principles of conflict resolution and group dynamics can be used to promote efficient group functioning and members satisfaction. Accredited by State Fire Marshal's Office. 16-18 hours lecture. (No Prerequisite. Credit/No Credit) This course may be taken four times.

FIRE 52 Commanding the Initial Response 1.0 Unit
This National Fire Academy course is designed to give the fire fighter student information and skills necessary to establish command, perform size-up, develop and implement an action plan, transfer command, and organize an incident using an effective command system. Accredited by State Fire Marshal's Office. 16-18 hours lecture. (No Prerequisite. Credit/No Credit) This course may be taken four times.

FIRE 53 Hazardous Materials First Responder Operational Decontamination 0.5 Unit
This course provides the student with the information and skills to safely and competently decontaminate people and equipment at a hazardous materials (haz mat) incident. California Specialized Training Institute (CSTI) certified. Meets federal and state requirements as listed in 29 CFR 1910.120 (q), CCR 5192 (q), NFPA472. $10.00 fee for CSTI certificate. Eight-nine hours lecture. (Prerequisite: FIRE 82A. Credit/No Credit)

FIRE 54 Fire Command 2E 2.0 Units
This course prepares the fire fighter student to manage the large wildland fire incident. Topics of discussion include: California's wildland fire problem, fire safety, weather effects, wildland fuel behavior, attack methods, using support equipment, strategy and tactics, air attack operations, and using maps. Simulation is featured. Chief Officer certified. 32-36 hours lecture. (No prerequisite. Credit/No Credit) This course may be taken four times.

FIRE 55 Fire Instructor 2A 2.5 Units
This course is designed to provide the fire technology student the skills to evaluate students. Topics include: construction of written (technical knowledge) and performance (manipulative skills) tests, as well as test planning, test analysis, test security, and evaluation of test results to determine instructor and student effectiveness. Essential course for writing valid, objective tests. 40-45 hours lecture. (Prerequisite: FIRE 70 and FIRE 71. State mandated. Grade Option) This course may be taken two times.

FIRE 56 Fire Instructor 2B 2.5 Units
This course is designed for the fire technology student who require skills leading groups of people in staff meetings, group discussions, and training sessions to solve problems, determine objectives, generate new ideas and provide instruction to subordinates. 40-45 hours lecture. (No prerequisite. Grade Option) This course may be taken two times.

FIRE 58 Introduction to Emergency Management 4.0 Units
This course provides the history, terminology, goals and mission of the Emergency Management occupation and profession. The roles, responsibilities, lines of authority and characteristics of effective program managers are presented. Professional associations, federal support programs, model state practices and functional activities are also discussed. 64-72 hours lecture. (No Prerequisite. Grade Option)

FIRE 58A Community Disaster Planning 4.0 Units
This course provides the student with the information and details to develop a community or company disaster plan. Topics of discussion include: developing a disaster plan for a company or community, developing a hazard analysis and capability assessment, building consensus, leveraging political assets to insure community readiness, and the process of adoption and revision. Students also will receive certificates from the Federal Emergency Management Agency (FEMA): IS-15, Special Event Contingency Planning; IS-3, Radiological Emergency Preparedness; IS-324, Community Hurricane Planning; IS-11, Animals in Disasters, Community Planning. 64-72 hours lecture. (No Prerequisite. Grade Option)

FIRE 58B Emergency Management Response 4.0 Units
This course provides the student with the information and details of coordinating and operating a community emergency operations center (EOC). How to coordinate the resources of a community or company, identify specific threats, and the operational requirements of an EOC are presented. Students will also receive certificate of completion from the Federal Emergency Management Agency (FEMA): IS-275, The Role of the EOC in Community Preparedness, Response and Recovery; IS-271, Anticipation of Weather and Community Risk; IS-301, Radiological Emergency Response; Q-534, Emergency Response to Terrorism; IS-288, Managing Volunteer Resources. 64-72 hours lecture. (No Prerequisite. Grade Option)

FIRE 58C Emergency Management Recovery 4.0 Units
This course provides the student with the information and details of making the transition from response to recovery to a company disaster. Case studies examine mass fatality management, earthquakes, flooding and terrorism incidents. Students receive certificates of completion from the Federal Emergency Management Agency (FEMA): IS-7, Citizens Guide to Disaster Assistance; IS-208, State Disaster Management; IS-600, Special Considerations for FEMA Public Assistance Projects; IS-630, Introduction to the Public Awareness Process. 64-72 hours lecture. (No Prerequisite. Grade Option)

FIRE 58D Introduction to Mitigation for Disasters 4.0 Units
This course provides the student with the information and details to plan and implement mitigation strategies for a community or business. Mitigation includes all activities that improve a community or business's survivability from an identified threat. Identifying needs, obtaining funding and executing mitigation programs are the objectives of this course. Students also will receive certificates of completion from the Federal Emergency Management Agency (FEMA): IS-393, Introduction to Mitigation; IS-394, Mitigation for the Homeowner; IS-8, Building for the Earthquake of Tomorrow; IS-9, Managing Floodplain Development. 64-72 hours lecture. (No Prerequisite. Grade Option)

FIRE 59 Basic Wildland Fire Fighter Academy 3.0 Units
This course presents information and skill development to students seeking employment and a career with a wildland fire agency. Certificates awarded to successful graduates are applicable to all state and federal wildland fire agencies. North West Coordinating Group (NWCG) certified. California Department of Forestry (CDF) certified. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite. Credit/No Credit. Recommended preparation: Good attitude and willingness to work hard.)

FIRE 60B Advanced Incident Command System, I-400 1.0 Unit
This course will emphasize large scale organization development, roles and relationships of the primary command staff; the planning, operational, logistical and fiscal considerations related to command of a large and complex incident. Fire Service Training and Education Program (FSTEP) certified. There is a $5.00 fee for certificate. 16-18 hours lecture. (Prerequisites: FIRE 66.1, or employment within a recognized fire service agency at the rank of company officer or above. State mandated. Credit/No Credit)

FIRE 60C Incident Safety Officer, S-401 1.5 Units
This course prepares the fire fighter student to work as a safety officer within the Incident Command System, with emphasis on unsafe and hazardous conditions at emergency scenes. Fire Service Training and Education Program (FSTEP) certified. There is a $5.00 fee for certificate. 24-27 hours lecture. (Prerequisites: FIRE 66.1, FIRE 80A, FIRE 6OE or employment within a recognized fire service agency at the rank of company officer or above. State Mandated. Credit/No Credit)

FIRE 60E Division/Group Supervisor, S-339 1.0 Unit
This course will provide the information necessary to support the specific tasks of the Division/Group Supervisor position within the Incident Command System. North West Coordinating Group certified. 16-18 hours lecture. (Prerequisites: FIRE 60G, FIRE 66, FIRE 86. State Mandated. Credit/No Credit). This course may be taken four times.

FIRE 60F ICS-334 Strike Team Leader-Engine 1.0 Unit
This course describes and explains the basic responsibilities of an Engine Strike Team Leader. Topics of discussion include: the strike team concept; types of strike teams; pre-incident responsibilities; assembly and travel; incident arrival; check-in; assigned/available status; out-of-service status; demobilization/release. 16-18 hours lecture. (No prerequisite, Credit/No Credit)

FIRE 60G Incident Commander, Initial Attack, S-200 1.0 Unit
This course provides information and techniques to prepare the fire fighter student to command an initial attack at a wildland fire and incorporate resources effectively. North West Coordinating Group (NWCG) certified. 16-18 hours lecture. (Prerequisites: FIRE 66, FIRE 80. State mandated by California Fire Service Training and Education (CFSTES) and Incident Command system (ICS) by NWCG, or experience as a fire fighter working within the ICS. Credit/No Credit)

FIRE 60H Incident Commander, Extended Attack, S-300 1.0 Unit
This course will provide the fire fighter student the information necessary to command an incident that goes beyond the initial attack stage and incorporates additional resources. North West Coordinating Group certified. 16-18 hours lecture. (Prerequisites: FIRE 60G, FIRE 66, FIRE 86. State mandated. Credit/No Credit)

FIRE 61 Rescue Practices 3.0 Units
Rescue practices will provide training for emergency service personnel in reaching victims injured in collisions, cave-ins, collapse, or inaccessible areas such as mountainous terrain. Course includes training in both light and heavy auto extrication and packaging victims for transport; recovery of victims of earth collapse such as trench rescue; basic repelling techniques and use of the basket stretcher. 32-36 hours lecture and 48-54 hours laboratory.

FIRE 61A Medical Unit Leader, S-359 0.5 Unit
This course prepares the fire fighter student to work as a medical unit leader within the Incident Command System. Responsibilities, procedures and materials involved with the operation and function of the Medical Unit are discussed. North West Coordinating Group certified. Eight-nine hours lecture. (Prerequisites: FIRE 81 and FIRE 66.1. State mandated. Credit/No Credit)

FIRE 61B Basic Air Operations, S-270 1.0 Unit
This course will provide the fire fighter student with a survey of uses of aircraft in fire suppression and how to conduct themselves in and around aircraft. Management policies, regulations, and procedures which govern aviation operations in fire suppression will be examined. Aircraft tactical capabilities, logistical uses and specifications for helicopter landing areas are discussed. North West Coordinating Group certified. 16-18 hours lecture. (Prerequisite: FIRE 66. State mandated. Credit/No Credit)

FIRE 61C Helispot Manager, S-272 0.5 Unit
This course will provide the fire fighter student with an overview and the information about responsibilities, procedures and materials required to function as a Helispot Manager within the Incident Command System. North West Coordinating Group certified. Eight-nine hours lecture. (Prerequisite: FIRE 60G. State Mandated. Credit/No Credit)

FIRE 61D Resource Unit Leader/ Demobilization Unit Leader 2.0 Units
This course prepares the fire fighter student to work as a resource unit leader/demobilization unit leader within the Incident Command System. The responsibilities, duties and materials required to function in this position are discussed. North West Coordinating Group certified. 32-36 hours lecture. (Prerequisites: FIRE 61E and FIRE 66.1. State mandated. Credit/No Credit)

FIRE 61E Check In/Status Recorder, S-248 0.5 Unit
This course will provide the fire fighter student with the information required to function in the position of Check In/Status Recorder within the Resources Unit of the Incident Management System (ICS). North West Coordinating Group certified. Eight-nine hours lecture. (Prerequisite: FIRE 60G. State mandated. Credit/No Credit)

FIRE 61F Staging Area Manager 0.5 Unit
This course will provide the fire fighter student with information about the duties, responsibilities and materials required to function as a staging area manager. Fire Service Training Education Program (FSTEP) certified. Eight-nine hours lecture. (Prerequisite: FIRE 60G, S-200. Credit/No Credit)

FIRE 61G Fire Line Emergency Medical Technician (EMT) 0.5 Unit
This eight hour course is designed to prepare the fire fighter, Emergency Medical Technician to safely operate at a major wildland fire incident at the fire line location. Course covers duties and responsibilities of the Fire Line EMT; equipment needs, helicopter safety, the Incident Command System (ICS) organization, review of treatments for common fire line injuries, and use of makeshift aids. Eight-nine hours lecture. (Prerequisites: FIRE 81, current EMT--I certification (state mandated per CFSTES policy), employment as a fire fighter in a public or private fire service organization. Credit/No Credit) This course may be taken four times.

FIRE 63 Apparatus Driver/Operator IA 1.5 Units
This course is designed to provide the student with information on driver techniques for emergency vehicles and techniques of basic inspection and maintenance for emergency vehicles, including actual driving exercises under simulated emergency situations. 24-27 hours lecture and 16-18 hours laboratory. (No prerequisite) This course may be taken three times.

FIRE 64 Apparatus Driver/Operator lB 1.5 Units
This course is designed to provide the student with information on driver techniques for emergency vehicles and techniques of inspection, operation of fire pumps, including actual driving and pumping of water under simulated emergency exercises. 24-27 hours lecture and 16-18 hours laboratory. (No prerequisite) This course may be taken three times.

FIRE 65 Basic Wildland Fire Control 2.0 Units
Basic wildland hand-crew training. The course covers fire suppression organizations, fire behavior, meteorology, suppression techniques, and safety. Meets federal fire agencies requirements for employees and mutual aid cooperators. 28 hours lecture, and 16-18 hours laboratory. Offered Spring. (No prerequisite)

FIRE 65O Campbell Prediction System 1.0 Unit
This course is designed for the fire fighter and fire officer who want to know why, when and where wildland fire behavior will change, and how to make these predictions to apply safe and effective tactics or evacuate a dangerous area and learn a system to effectively communicate these predictions to others. California Department of Forestry certified. 16-18 hours lecture. (No prerequisite. Credit/No Credit) This course may be taken four times.

FIRE 66 Introduction to Incident Command 1.0 Unit
This course provides an introduction to, and an overview of the Incident Command System and introduces the participants to the NIMS (National Interagency Incident Management System). 16-18 hours lecture. (No prerequisite)

FIRE 67 Trench Rescue 0.5 Unit
This course is designed to provide hands on techniques for fire service personnel to effect a rescue at an excavation or trench cave-in. Topics include: critical considerations while responding to trenching emergencies; evaluation of cave-in scenes; basic life support procedures and temporary protection for victims; specialized tool usage; shoring techniques; and below grade rescue safety procedures. Eight-nine hours lecture. (No prerequisite)

FIRE 69 Building Construction for Fire Protection 3.0 Units
This course is the study of the components of building construction that relates to fire safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, preplanning fire operations, and operating at fires. The development and evolution of building and fire codes will be studied in relationship to past fires, in residential, commercial, and industrial occupancies. 48-54 hours lecture. (No prerequisite)

FIRE 70 Instructor IA - Instructional Techniques Part I 2.0 Units
This is the first of a two-course series and is the standard State Board of Fire Services accredited course as offered in community colleges. Topics include the occupational analysis, course outlines, concepts of learning, levels of instruction, behavioral objectives, using lesson plans, the psychology of learning, and evaluation of effectiveness. Activities include student teaching demonstrations. This course applies to Fire Officer, Fire Instructor I, and Public Education Officer I certifications. 32-36 hours lecture. (No prerequisite)

FIRE 71 Instructor 1B - Instructional Techniques Part 2 2.0 Units
This is the second in a two-course series and is the standard State Board of Fire Services accredited course as offered in community colleges. Topics include preparing course outlines, establishing levels of instruction, constructing behavioral objectives and lesson plans, instructional aid development, fundamentals of testing and measurements, tests planning, evaluation techniques and tools. Activities include student teaching demonstrations. This course applies to Fire Officer, Fire Instructor I, and Public Education Officer II certifications. 32-36 hours lecture. (No prerequisite)

FIRE 72 Fire Command IA - Command Principles for Company Officers 2.0 Units
This course provides the instruction and simulation time to the participants pertaining to the initial decision and action processes at a working fire. The course includes areas of discussion on the fire officer, fire behavior, fire-ground resources, operations and management. This course applies to Fire Officer certification. 32-36 hours lecture. Offered Fall. (No prerequisite)

FIRE 73 Fire Command IB - Hazardous Materials Command Principles for Company Officers 2.0 Units
This course provides instruction in tactics and strategies and scene management principles for incidents involving hazardous materials. The course includes areas of discussion on identification and hazard mitigation, decontamination, protective clothing, environmental concerns, and legal issues. This course applies to Fire Officer certification. 32-36 hours lecture. (No prerequisite. FIRE 66 recommended)

FIRE 74 Fire Prevention IA - Fire Inspection Practices 2.0 Units
This course provides a broad, technical overview of fire prevention codes and ordinances, inspection practices, and key hazards. Some areas of discussion include flammable and combustible liquids and gases, explosives, fireworks, extinguishing systems and others. This course applies to Fire Officer, Fire Prevention Officer I, and Public Education Officer I certifications. 32-36 hours lecture. (No prerequisite)

FIRE 74C Fire Prevention 2A 2.5 Units
This course provides the most up-to-date information on laws and regulations pertaining to systems, description, installations and problems relating to fire protection systems. This course is specifically designed for in-service fire department personnel wishing to complete their State Fire Training (SFT) Fire Protection Specialist certification requirements. 40-45 hours lecture. [Prerequisite: Completion of SFT Fire Prevention Officer Certification Track (July 2006). Grade Option.] This course may be taken three times.

FIRE 74D Fire Prevention 2B 2.5 Units
This course provides the participants with extensive, in depth information about the fire and life safety standards of buildings as they relate to Tiles 19 and 24. Topics for discussion include: Types of construction, construction methods and materials, interior finishes, roof coverings, occupancy and more. 40-45 hours lecture. [Prerequisite: Completion of State Fire Training (SFT) Fire Prevention Officer Certification Track (July 2006). Grade Option.] This course may be taken three times.

FIRE 74E Fire Prevention 2C 2.5 Units
This course introduces the participants to unique and unusual prevention challenges. Topics include: Industrial ovens, cleaning and finishing processes, welding, refrigeration systems, medical gases, fireworks, and special extinguishing systems. 40-45 hours lecture. [Prerequisite: Completion of State Fire Training (SFT) Fire Prevention Officer Certification Track (July 2006). Grade Option.] This course may be taken three times.

FIRE 75 Fire Prevention IB - Code Enforcement 2.0 Units
This course focuses on the ordinances and statutes that pertain to fire prevention practices in California. Some topics of discussion include building construction and occupancy, evacuation procedures, inspection reports, and processing plans. This course applies to Fire Officer, Fire Prevention Officer I, and Public Education Officer I certifications. 32-36 hours lecture. (No prerequisite)

FIRE 76 Management 1- Supervision for Company Officers 2.0 Units
This course is designed to prepare or enhance the first line supervisor's ability to supervise subordinates. It introduces key management concepts and practices utilized in the California Fire Service. The course includes discussions about decision making, time management, leadership styles, personnel evaluations, and counseling guidelines. This course applies to Fire Officer certification. 32-36 hours lecture. (No prerequisite)

FIRE 77 Investigation IA - Fire Cause and Origin Determination 2.0 Units

This course provides the student with an introduction and basic overview of fire scene investigation. Provides information on fire scene indicators, and introduces fire service personnel to the concepts of fire investigation. Applies to Fire Officer and Fire Investigator I certification. 32-36 hours lecture. (No prerequisite)

FIRE 78 Fire Prevention IC - Flammable Liquids and Gases 2.0 Units

This course provides the students with information on how to safely store, handle, dispense and transport flammable liquids and gases. Topics of discussion include: bulk handling and storage requirements, transportation of flammable and combustible liquids and gases, fire code requirements for storage outdoors, indoors, inside special rooms and portable container requirements. Applies towards Fire Prevention Officer I certification. 32-36 hours lecture. (No prerequisite)

FIRE 79 Fire Investigation IB 2.0 Units

This course provides the participants with information to achieve a deeper understanding of fire investigation. This course builds on FIRE 77 Investigation IA and adds topics of discussion including the juvenile fire setter, report writing, evidence collection and preservation procedures. 32-36 hours lecture. (No prerequisite)

FIRE 80 Introduction to Wildland Fire Behavior, S-190 0.5 Unit

This course will familiarize the student with the basic concepts and components of wildland fire behavior. North West Coordinating Group (NWCG) certified. Eight-nine hours lecture. (No prerequisite. Credit/No Credit)

FIRE 80A Intermediate Wildland Fire Behavior, S-290 2.0 Units

This course will present to fire fighting students the skills and information necessary to prepare them for safe and effective operations at wildland fires. Meets the training requirements to work in the Incident Command System (ICS) Operations Section, as a Single Resource or Strike Team Leader. North West Coordinating Group (NWCG) certified. 32-36 hours lecture and eight-nine hours laboratory. (Prerequisites: FIRE 80. State mandated by California Fire Service Training and Education (CFSTES) and Incident Command System by North West Coordinating Group, or experience as a fire fighter working within the ICS. Credit No/Credit)

FIRE 80B Wildland Fire Suppression Tactics, S-336 2.0 Units

This course will provide the fire fighter student the information necessary to operate within the Operations Section of the Incident Command System. North West Coordinating Group certified. 32-36 hours lecture. (Prerequisites: FIRE 80A, FIRE 66. State mandated. Credit/No Credit)

FIRE 81 Emergency Medical Technician I 8.0 Units

The first phase of training in the Emergency Medical Technician I career for fire fighters and other emergency first responders. Covers all techniques of emergency medical care considered the responsibility of the Emergency Medical Technician I. Course emphasizes the development of student skills in recognition of symptoms of illness and injuries and proper procedures of emergency care. Course includes certification in professional CPR (Cardio Pulmonary Resuscitation). Approved by the California State Fire Marshal's Office and the State Board of Fire Services. Certificate from Fire Service Training and Education Program (FSTEP) awarded. 120 hours lecture and 28 hours laboratory. (Prerequisite: Students must complete TB test and provide copy of immunization records prior to clinical training.) This course my be repeated.

FIRE 81B EMT-I, Continuing Education Recertification 0.5 Unit

This course provides the student with the information skills development and testing requirements for recertification qualification for Emergency Medical Technician 1 and qualifies for Continuing Education credit. Four hours lecture and 12 hours laboratory. (Prerequisite: EMT-1. State and county mandated. Credit/No Credit.) This course may be taken four times.

FIRE 82 Hazardous Materials First Responder Awareness 0.5 Unit

This course is designed to provide the student with information essential to those people who are likely to be first responders at hazardous materials incidents. Designed to meet federal and state requirements for awareness training for employees handling and using hazardous materials. Eight hours lecture and one hour laboratory. (No prerequisites) This course may be taken three times.

FIRE 82A Hazardous Materials First Responder Operational 1.5 Units

To provide participants who are likely first responders with the necessary awareness of safe and competent hazardous materials response techniques. Participants shall also be able to provide safe identification and assessment evaluation, as well as select safe containment and protective actions to mitigate the hazardous materials incident whenever safety and resource capabilities permit. 24-27 hours lecture. Offered Fall, Spring. (No prerequisite) This course may be taken four times.

FIRE 83 Fire Management 2C, Labor and Personnel Management 2.0 Units

This course provides the fire fighter student with knowledge and insight into fire fighting personnel, human resources, and diversity management. Legal mandates, labor relations, and related areas are explored with a focus on human resource management and individual employee development strategies. 32-36 hours lecture. (No prerequisites)

FIRE 84 Fire Command 2A-Command Tactics at Major Fires 2.0 Units

This course is designed to provide the student with the management techniques and use of the Incident Command System (ICS) necessary for the efficient and safe command of large fires, multiple alarms and emergencies requiring large numbers of personnel and apparatus. Features simulation and case studies to develop management and command skills. Applies to Chief Officer Certification. California Fire Service Training and Education System (CFSTES) approved. 32-36 hours lecture. (No prerequisite)

FIRE 85 Fire Management 2A-Organizational Development and Human Relations 2.0 Units

This course provides the student with information on how to make the transition from supervisor to manager. Topics of discussion include internal and external influences; personality traits of fire fighters; managing human relations; group dynamics; conflict solution and more. This course applies to Chief Officer Certification. California Fire Service Training and Education System (CFSTES) approved. 32-36 hours lecture. (No prerequisite)

FIRE 86 Intermediate Incident Command System (ICS) 1.5 Units

This course expands the fire fighting student's knowledge of ICS and how to expand the system to fit the emergency and adds air operations and the control and management of these resources to the ICS system. 24-27 hours lecture. (Prerequisite: FIRE 66 or experience as a fire fighter using the ICS system. Credit/No Credit)

FIRE 87 Fire Management 2E 2.0 Units
Designed for Fire Chief Officers, Company Officers and functional managers, this course provides an overview of current issues and concepts of today's modern fire service. Topics include: governmental relations, changing "settings/policy formation," program management, personnel/labor relations, and the legal environment. 32-36 hours lecture. (No prerequisite)

FIRE 90 Paid Call Fire Fighter Academy 3.0 Units
The Paid Call Fire Fighter Academy will provide basic training for individuals interested in becoming a Paid Call Fire Fighter. Students must attend a mandatory orientation. 32-36 hours lecture hours and 48-54 hours laboratory. Offered Fall, Spring. (Prerequisite: Without the required physical strength and stamina to safely operate and control fire service tools, equipment and apparatus the student poses an undue risk to him/herself and to other fire technology students. Physical fitness requirements include strong back, torso, and legs and arms with flexibility and agility. Good hand and eye coordination plus the ability to remain calm under conditions of stress and personal discomfort are essential. Physical medical exam equal to sport physical or a pre employment physical is required to determine if the student has a disqualifying injury or condition that would result in an injury or accident to the student.)

FIRE 91 Fire Control 5 1.5 Units
This course provides the fire fighter student with the information, methods and techniques necessary for providing crash fire rescue services (CFR) at airports. Subjects include: Utilizing conventional fire and specialized apparatus, CFR extinguishing agents, types of aircraft, standby procedures and operations at airports. Actual fire fighting and simulation is featured. 24-27 hours lecture and 16-18 hours laboratory. (No prerequisite. Credit/No Credit) This course may be taken four times.

FIRE 93 Fire Management 2D, Master Planning 2.0 Units
This course provides participants with information and discussion centering around program planning, master planning, forecasting, system analysis, system design, policy analysis, and other tropics. Applies to Chief Officer certification. State Fire Marshal accredited, 32-36 hours lecture. (No prerequisite) This course may be taken four times.

FIRE 94 Fire Command 2D, Planning for Large Scale Disasters 2.0 Units
The principles of disaster planning and the role of the fire department are discussed. Emergency Operation Centers (EOC), the role of Federal Emergency Management Administration (FMA), mutual aid, legal considerations, and mitigation techniques are topics covered. Case studies are examined and simulation exercises are feature. 32-36 hours lecture. (No prerequisite) This course may be taken four times.

FIRE 95 Basic Fire Academy 10.0 Units
Introduction to basic fire fighting theory and skills; study of the characteristics and behavior of fire; practice in fundamental fire suppression activities, with special attention on safety, first aid, and rescue procedures. 112 hours lecture and 208 hours laboratory. Offered Spring. (No prerequisite)

FIRE 98 Fire Company Officer's Academy 1.5 Units
This forty-hour course is designed for the fire fighter student in order to provide students with a brief but comprehensive overview of the responsibilities of a fire department company officer. Emphasizes fundamental techniques of personnel management, supervision and leadership. Topics covered include: motivating, coaching and counseling subordinates; basic fire ground principles; and fire ground tactics and strategies at the company officer level. 24-27 hours lecture and 16-18 hours laboratory. (No prerequisite)

FIRE 99 Chief Officer's Workshop 1.0 Unit
This course provides the fire fighter student with current topics and challenges facing the fire service and chief officer's as supervisors. Topics include legal issues resulting from hazardous materials incidents, emergency medical protocols, terrorism, current management policies and procedures. CDF certified. 16-18 hours lecture. (Prerequisites: I-300, S-430, S-400. State mandated. Credit/No Credit) This course may be taken four times.

FIRE 100 Fire Protection Organization 3.0 Units
Provides an introduction to fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems and fire strategy and tactics. 48-54 hours lecture. CSU. Offered Fall, Spring. (No prerequisite)

FIRE 101 Fundamentals of Fire Service Operations 3.0 Units
Provides the student with the fundamentals of fire department organization, management, and resources, and emphasizes the use of those resources to control various emergencies. 48-54 hours lecture. CSU. (No prerequisite)

FIRE 102 Fire Prevention Technology 3.0 Units
This course provides fundamental information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, identification and correction of fire hazards, and the relationship of fire prevention with fire safety education and detection and suppression systems. 48-54 hours lecture. CSU. Offered Fall, Spring. (No prerequisite)

FIRE 103 Fire Protection Equipment and Systems 3.0 Units
This course provides information relating to the features of design and operation of fire detection and alarm systems, heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection and portable fire extinguishers. 48-54 hours lecture. CSU. (No prerequisite)

FIRE 104 Fire Behavior and Combustion 3.0 Units
This course will study the theory and fundamentals of how and why fires start, spread, and are controlled; an in-depth study of fire chemistry and physics, fire characteristics of materials, extinguishing agents, and fire control techniques. 48-54 hours lecture. CSU. (No prerequisite)

FIRE 105 Fire Apparatus and Equipment 3.0 Units
Fire apparatus design, specifications, and performance capabilities; effective utilization of apparatus in fire service emergencies. 48-54 hours lecture. CSU. (No prerequisite)

FIRE 106 Fire Company Organization and Management 3.0 Units
Review of fire department organization, fire company organization, study of leadership and supervision with emphasis on communications, training, fire prevention, records and reports, and problem solving. 48-54 hours lecture. CSU. (No prerequisite)

FIRE 107 Fire Investigation 3.0 Units
A study of the cause and origin of any and all types of fires (accidental, incendiary, and suspicious); and law relating to fire investigation. Recognizing, collecting, and preserving evidence, interviewing witnesses and suspects, arrest and detention procedures, court procedures and giving a testimony. 48-54 hours lecture. CSU. (No prerequisite)

FIRE 108 Fire Hydraulics 3.0 Units
Review of applied mathematics; hydraulics laws as applied to the fire service; application of formulas and mental calculation to hydraulics and water supply problems.48-54 hours lecture. CSU. (No prerequisite)

FIRE 109 Wildland Fire Control 3.0 Units
A course designed to provide employed firemen or fire science majors with a fundamental knowledge of the factors affecting wildland fire prevention, fire behavior, and control techniques. 48-54 hours lecture. CSU. (No prerequisite)

FIRE 121 Fire Management 2 B 2.0 Units
This course is designed to provide information and insight into the cyclical nature of budgeting and financial management. As a management course, the student will be presented with the essential elements of financial planning, budget preparation, budget justification, and budget controls. This course applies to Chief Officer Certification. 32-36 hours lecture. CSU. (No prerequisite) This course may be taken three times.

FIRE 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

FIRE 148 Special Topics
See Special Topics listing (Variable units). CSU

FIRE 149 Independent Study
See Independent Study listing (1-3 units). CSU

FRENCH

FREN 101 Elementary French 5.0 Units
Basic structures of French language, inductive presentation of grammar, simple composition. Emphasis placed on the spoken language. 80-90 hours lecture. CSU, UC. Offered Fall. (No prerequisite)

FREN 102 Elementary French 5.0 Units
Continuation of FREN 101 stressing review of basic structures, more advanced grammar, spoken and written communication. 80-90 hours lecture. CSU, UC. Offered Spring. (Prerequisite: FREN 101)

FREN 103 Intermediate French 3.0 Units
Continuation of FREN 102 with grammar review and expansion, introduction to simple literary texts, spoken and written communication. 48-54 hours lecture. CSU, UC. Offered Fall. (Prerequisite: FREN 102)

FREN 104 Intermediate French
(CAN FREN 10) 3.0 Units
Continuation of FREN 103 with further grammar review and expansion, reading of simple literary texts, spoken and written communication. 48-54 hours lecture. CSU, UC. Offered Spring. (Prerequisite: FREN 103)

FREN 125 Conversational French 3.0 Units
An introduction to the French language using situations the visitor will commonly encounter. Introduction to simple French structures and grammar with emphasis on the spoken language. 48-54 hours lecture. CSU. (No prerequisite. Grade Option)

FREN 128 Special Topics
See Special Topics listing (Variable units).

FREN 129 Independent Study
See Independent Study listing (1-3 units).

GEOGRAPHY

GEOG 101 Physical Geography 3.0 Units
(CAN GEOG 2)
Fundamental geographical concepts are studied. Emphasis is on the physical world, its components and interrelationships, as well as current geographic issues. Topics include earth/sun relationships and seasons, weather and climate, earthquakes and volcanoes, rocks and minerals, oceans and coastlines, glaciers, and landform distribution. Also included are introductory methods of map interpretation. 48-54 hours lecture. CSU,UC Offered Fall, Spring, Summer, Winter. (No prerequisite.)

GEOG 101L Geography Laboratory 1.0 Unit
(CAN GEOG 6 when taken with GEOG 1)
An interactive exploration of earth's weather and climate, vegetation and soils, rocks and minerals, earthquakes and volcanoes. Tectonic forces are studied as relating to landform destruction and creation. Gradational forces are studied as relating to the processes of water, wind and ice. 48-54 hours laboratory. CSU,UC Offered Fall, Spring, Summer.

GEOG 102 Introduction to Cultural Geography
(CAN GEOG 4) 3.0 Units
An examination of human activities on the surface of the earth as exhibited by various cultures. Global variations in land-use systems, settlement patterns, economic activities, political and religious institutions, languages, and the numbers and movement of human populations are explored. 48-54 hours lecture. CSU, UC. Offered Fall, Spring, Summer, Winter. (No prerequisite) This course may be taken two times.

GEOG 103 Geography of California 3.0 Units
Study of California's physical and cultural characteristics. Physical topics covered include earthquakes, fires, landslides, floods and volcanoes. Cultural topics include diversity, immigration, urbanization, agriculture and economics. 48-54 hours lecture. CSU, UC. (No prerequisite) This course may be taken two times.

GEOG 104 World Regional Geography 3.0 Units
An examination of the world's countries within their global regions with emphasis on their physical and cultural attributes. Variations within and among these global regions are explored. 48-54 hours lecture. CSU. (No prerequisite) This course may be taken two times.

GEOG 110 Introduction to GIS in the Social Sciences 3.0 Units
GIS basics and applications to the Social Sciences are explored, including terminology, mapping and problem solving. Current GIS software applications and GPS navigational systems are utilized. 48-54 hours lecture. CSU (No prerequisite.)

GEOG 120 Meteorology-AMS Weather Studies 4.0 Units
A comprehensive study of meteorological principles which focus on real-time weather situations. Maps and graphics of current weather data illustrate the basic components of weather, such as temperature, pressure, wind, precipitation and severe weather phenomena, including tornadoes and hurricanes. 48-54 hours lecture and 48-54 hours laboratory. CSU (No prerequisite.)

GEOG 128 Special Topics
See Special Topics listing (Variable units). CSU. UC.

GEOLOGY

GEOL 101 Physical Geology (CAN GEOL 2) 4.0 Units
A study of the factors and processes that have created and shaped the earth's surface, the geologic structures that comprise it, and the minerals and rocks that form it. Field trips are scheduled to areas of representative local geology. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (No prerequisite)

GEOL 102 Historical Geology 4.0 Units
A study of the chronological development of the surface of the earth and of the corresponding evolution of life. Of vital importance to the course is a thorough understanding of the concepts of geologic time, biological classification, and evolution. Emphasis is placed on historical development of North America. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Spring. (No prerequisite)

GEOL 103 Geology of California 3.0 Units
A survey of the physical and historical geology of the 12 distinct geologic provinces of the state. Greatest emphasis is placed on the most important structural, scenic, and economic details of each region, and upon the provinces of Southern California. 48-54 hours lecture. CSU, UC. Offered Fall. (No prerequisite)

GEOL 109 Geology of the Western National Parks 3.0 Units
A survey course describing the geological features of the national parks and monuments of the Western United States, illustrating why these areas serve as important preserves of such features. 48-54 hours lecture. CSU. Offered Fall and Spring. (No prerequisite)

GEOL 128 Special Topics
See Special Topics listing (Variable units). CSU

GEOL 129 Independent Study
See Independent Study listing (1-3 units). CSU

GERMAN

GERM 101 Elementary German 5.0 Units
Inductive presentation of German language fundamentals: pronunciation, structure, simple composition, culture. Emphasis placed on using and understanding the spoken language. 80-90 hours lecture. CSU, UC (No prerequisite)

GERM 102 Elementary German 5.0 Units
Continuation of GERM 101 stressing review of basic structures, introduction of more advanced grammar, spoken and written communication in authentic cultural contexts.80-90 hours lecture. CSU, UC (Prerequisite: GERM 101 or equivalent)

GERM 125 Conversational German 3.0 Units
An introduction to the German language using situations the visitor will commonly encounter. Introduction to simple German structures and vocabulary with emphasis on the spoken language. 48-54 hours lecture. CSU (No prerequisite)

GERM 128 Special Topics
See Special Topics listing (Variable units). CSU, UC.

GERM 129 Independent Study
See Independent Study listing (1-3 units). CSU.

GUIDANCE

GUID 10 Support Class for Learning Disabled Students 1.0 Unit
Designed as a support class for students with diagnosed learning disabilities. Techniques for handling the social and emotional aspects of learning disabilities will be discussed. 16-18 hours lecture. This course will not apply to the Associate Degree. Offered Fall, Spring. (No prerequisite. Credit/No Credit) This course may be repeated.

GUID 50 College Success 1.0 Unit
A survey course designed to enable the student to learn and apply the techniques of effective study and to provide orientation to and familiarity with procedures, services, and common problems encountered by students. It includes a survey of the learning process, time management, the development of the techniques of note taking, understanding textbooks, techniques for remembering, test taking, preparation for exams, and the use of campus resources. 16-18 hours lecture. Offered Fall, Spring. (No prerequisite. Credit/No Credit) This course may be taken two times.

GUID 51 Orientation to College 0.5 Unit
This class is designed to provide students with a well-rounded knowledge and orientation to the policies, procedures, and academic and support services available at Victor Valley College. Students will develop an educational plan relevant to their educational/career goals. It will introduce and help students understand major and general education, certificate, AA, and transfer requirements; identify the four-year college system (CSU, UC, and private); understand the financial aid process, and will allow students to develop and identify academic/career goals. 8-9 hours lecture. (No prerequisite. Grade Option.) This course may be taken two times.

GUID 55 Building Math Confidence 1.5 Units
A group guidance program designed for those who fear math and/or are unable to deal with math successfully. Emphasis will be on how one approaches math by examining attitudes and dispelling faulty notions which erode confidence in one's ability to do math. 24-27 hours lecture. (No prerequisite Grade Option.) This course may be taken three times.

GUID 56 Self Esteem 1.5 Units
This personal development course focuses on specific ideas and techniques to overcome negative feelings such as loneliness, guilt, depression, and inferiority. Students will develop a personal value system that leads to greater happiness and productivity. 24-27 hours lecture. (No prerequisite Grade Option.) This course may be taken three times.

GUID 59 Special Issues in Personal Development 1.0-2.0 Units
A series of short-term offerings developed in response to the common interest of special groups. Opportunities for an examination of the elements associated with particular issues of personal development and for group interaction on various topics of student concern. Offered Fall, Spring. (No prerequisite. Credit/ No Credit) This course may be taken four times.

GUID 64 Orientation (EOPS) 0.5 Unit
This class is designed to orient EOPS students to the college's functions, programs, services, procedures, campus facilities, transfer and career information. Additionally, it will acquaint students with performance expectations. Eight-nine hours lecture. (No prerequisite. Credit/No Credit)

GUID 66 Peer Advising Techniques 3.0 Units
This course is designed to provide program advising skills, catalog, registration and scheduling information as well as helping skills that will prepare peer advisors to assist other students. 48-54 hours lecture. (No prerequisite Credit/No Credit)

GUID 75 Career Planning for the Disabled 1.0 Unit
This course is designed to offer students with disabilities a practical orientation in career selection and development of skills in job placement. 16-18 hours lecture. (No prerequisite. Pass/No Pass.) This course may be taken two times.

GUID 100 Career and Life Planning 2.0 Units
This group guidance course is designed to assist students in the career and life planning process through consideration of individual needs, personality, interests, abilities and values. Emphasis will be placed on personal growth through assessment, career research, goal setting, and decision making. 32-36 hours lecture. CSU. (No prerequisite. Grade Option.) This course may be taken two times.

GUID 101 First Year Experience 3.0 Units
This comprehensive course integrates personal growth, academic and career success with problem solving, critical and creative thinking. The course focuses on the following topics: life management, goal setting, career decision making, educational planning, college requirements and expectations, instructor-student interaction, cultural diversity, health maintenance, stress management, campus resources, learning styles, and strategies including lecture note-taking, test taking, and concentration. 48-54 hours lecture. (No prerequisite. Grade Option.)

GUID 105 Personal and Career Success 3.0 Units
This intensive course is designed to assist students in obtaining the skills and knowledge necessary to identify and reach their personal goals and achieve college and career success. Topics covered include: self-awareness, goal-setting, motivation and discipline, memory development, time management, oral and written communication skills, study skills, diversity, financial planning, and an orientation to college life. See cross listing for PSYC 105. 48-54 hours lecture. CSU. (No prerequisite. Grade Option.)

GUID 107 Learning Strategies and Study Skills 3.0 Units
This survey course assists students in assessing attitude, motivation, learning styles, and personality attributes that are necessary to the successful transition into college. Students will integrate this self awareness with theories and strategies that focus on the attainment of life long success in academic, professional and personal development. Topics include time management, study skills, test preparation, educational goal setting and planning, maintaining a healthy life style, and critical thinking skills. 48-54 hours lecture. CSU. (No prerequisite)

HEALTH

HLTH 102 Contemporary Problems in Personal and Community Health 3.0 Units
An introductory course emphasizing the scientific basis for making rational decisions on contemporary health problems of personal and social significance. Course includes personal nutrition, fitness, reproduction, and disease control. The course also includes a review of other current issues of community health. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite, Grade Option)

HEATING, VENTILATION, AIR CONDITIONING/ REFRIGERATION

SEE CONSTRUCTION AND MANUFACTURING TECHNOLOGY

HISTORY

HIST 50 United States History 3.0 Units
A survey of American social, political, and economic institutions from colonial origins to recent times. Course specifically designed for fulfillment of requirements of high school diploma and for non-transfer students. 48-54 hours lecture. (No prerequisite. Grade option)

HIST 55 History of the Victor Valley 3.0 Units
This course will draw on a large body of source material and information gathered over a long span of years in the community as well as recently acquired and discovered material to trace the development and changes of life-styles and ways of life from one generation to another. There will be some attempt to tie local developments to national trends and events while also attempting to discover what is unique and significant about the experience of living in the high Mojave Desert during the era from 1850 to the present. 48-54 hours lecture. Offered Spring. (No prerequisite. Grade option)

HIST 103 World History to 1500 (CAN HIST 14) 3.0 Units
Course will focus on the beginnings of civilization some five to seven thousand years ago in Mesopotamia, Asia, the Americas, Classical Civilizations and the Axis Age with an understanding of the world in 1500. Social, cultural, geographical, political and economic history of the various world civilizations will be stressed. The course is designed to challenge erroneous assumptions about world history and contemporary realities. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite) This course may be taken two times.

HIST 104 World History Since 1500 (CAN HIST 16) 3.0 Units
Course will cover the period of 1600 to the 1980's and will focus on the making of the modern world. Inter-locking themes will include the discovery of the New World and the rise of Capitalism, the resistance to this new economic system by the non-white world, the spread of Imperialism and the division of the world in the "core" (industrial) and "peripheral" (non-industrial) nations of the First and Third World. National revolution and rebellion especially in the 20th century will be examined as well as the "end of the Third World" and the rise of the Pacific Rim as a model of national and economic development. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite) This course may be taken two times.

HIST 115 History of California 3.0 Units
A survey of the history and geography of California. The course will cover all aspects of the development of what is today known as California, including those contributions made by Indians, Spanish, Mexican, and early Anglo inhabitants. Special emphasis will be laid upon critical issues of the present. This course satisfies in part the California history requirement for teachers in the primary grades. 48-54 hours lecture. CSU, UC. (No prerequisite)

HIST 117 History of the United States to 1876 (CAN HIST 8) 3.0 Units
American Civilization through the Civil War era. Native American and European antecedents will be studied. Colonial and revolutionary periods will be analyzed as well as the formation of a new nation. Gender and race issues will be examined in the light of nation building. 48-54 hours lecture. CSU,UC (UC credit limitation). Offered Fall, Spring, Summer. (No prerequisite.)

HIST H117 Honors History of the United States to 1876 (CAN HIST 8) 3.0 Units
American civilization, primarily focusing on the British colonies and the US, through the Civil War era. Native American, African and European antecedents will form part of the class. Students will analyze the colonial and revolutionary periods, as well as the Declaration of Independence and the Constitution in the formation of a new nation. The class examines gender and race issues in light of nation building and American culture. Honors classes will take students further into the course material with additional reading, in-class debates and graded roundtable discussion, and a term paper which involved both primary and secondary sources. 48-54 hours lecture. CSU,UC (UC credit limitation.) (No prerequisite. HIST 50 recommended.)

HIST 118 History of the United States From 1876 (CAN HIST 10) 3.0 Units
A survey of the history of the United States from 1876 to the present. The course will focus on economic, political and social history in order to understand the casual factors that created the United States. Gender and ethnic history will be examined in light of the development of the United States and how diverse groups contributed to the historical reality of the United States. 48-54 hours lecture. CSU, UC (UC credit limitation). Offered Fall, Spring, Summer. (No prerequisite) This course may be taken two times.

HIST H118 Honors History of the United States From 1876 (CAN HIST 10) 3.0 Units
A survey of American history since Reconstruction after the Civil War with emphasis upon those social, political, and economic factors which most shaped modern America. The honors format will be implemented, including a greater amount of outside reading material and more class time devoted to discussion of that material—with consequently much less actual treatment of the basic textbook, which honors students will be expected to grasp adequately on their own. Particular attention will be focused on the varying viewpoints and interpretations of the important historic questions. 64-72 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

HIST 128 Special Topics
See special Topics listing (Variable units). CSU, UC.

HIST 129 Independent Study
See Independent Study (1-3 units). CSU

HIST 130 Latin American History 3.0 Units
This course is designed to give students a chronological overview of Latin American History beginning with pre-Colombian societies and concluding with Latin American Independence. Focuses on the impact of the conquest of the "New World", the role of the Catholic Church, Spanish mercantilism, and the economienda system, on the indigenous population and the development of Latin American society. 48-54 hours lecture. CSU, UC. (No prerequisite) This course may be taken two times.

HIST 131 Latin American History 3.0 Units
This course is designed to give students a chronological overview of Latin American History beginning with Latin American Independence and concluding with present events and problems in Latin America. Students will gain an understanding of the social, economic, political, and diplomatic elements that have been the basis for post-Independence Latin American development. Special emphasis will be placed on US-Latin American relations. 48-54 hours lecture. CSU, UC. HIST 130 offered Fall, HIST 131 offered Spring. (No prerequisite) This course may be taken two times.

HIST 145 PTK Study Topic Seminar 1.0 Unit
This is a lecture series based on the Phi Theta Kappa International honor society study topic for each year. Faculty members will be invited to speak on their areas of expertise as they relate to those study topics. 16-18 hours lecture. CSU, UC. (No prerequisite. Credit/No Credit). This course may be taken four times.

HIST 153 African American History 3.0 Units
The progression of the Black American's slave experience to the present. Emphasis on the struggle for social, political, and economic parity. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite)

HIST 155 Women in United States History 3.0 Units
Basic background in U.S. history will be assumed and helpful. History of women in the United States from the colonial era to the present. Emphasis on changing roles women have played in society, family, and work. 48-54 hours lecture. CSU, UC. Offered Fall, Spring, Summer. (No prerequisite)

HIST 157 History of the Indians of the United States 3.0 Units
A survey history of Native America from the time of contact (1500) to the present. Course will focus on Indians of North American, but will also focus to a lesser degree on American tribes, civilizations, and kingdoms of South America and Hawaii. The anthropological background, settlement patterns, erosion of traditional culture and values conquests by whites, genocide, the theft of the West by whites , the reservations system, the tragedy of Native America today and the rise of Native American militancy will be just some of themes covered in the courses. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite)

HONORS COURSES

CHEM H100 Honors Introductory Chemistry (CAN CHEM 6) 6.0 Units
A foundation in the fundamental concepts, theories, and methodologies of Introductory Chemistry is highly recommended. Critical thinking and analytical skills will be used to develop problem-solving strategies used in Chemistry. Emphasis will be on the use of communication and information technologies in the analysis and presentation of experimental data. 64-72 hours lecture and 96-108 hours laboratory. CSU, UC. Offered Fall.

CHEM H206 Honors Introductory Chemistry II: Organic Chemistry 5.0 Units
Modern organic synthesis, biotech, and pharmaceutical laboratories assess the feasibility of their proposed syntheses using computer generated models of target compounds. Current trends in modern research indicate a growing dependence on computational chemistry. This program will extend topics covered in CHEM 106 into basic concepts of computational chemistry. Emphasis will be on molecular modeling techniques, acquisition, processing, and presentation of experimental data. 64-72 hours lecture and 96-108 hours laboratory. CSU, UC

CHEM H207 Introductory Chemistry III: Biochemistry Honors 5.0 Units
The application of molecular modeling techniques to biological marmomolecules. Computer generate force-fields and molecular graphics will be used to study structural geometry, potential energy surfaces, energy gradients, bond energies, and bond angles. Confirmation analyses will be performed to gain a practical understanding of the advantages and limitation of molecular modeling.64-72 hours lecture and 96-108 hours laboratory. CSU, UC. Offered Fall.

ENGL H101 Honors Composition and Reading 4.0 Units

This course emphasizes the basic approaches to writing that will be necessary in college: research, textual analysis, critical applications and discussion of texts and ideas. The class demands greater depth of research and discussion, and emphasizes the seminar approach to learning. 64-72 hours lecture. CSU, UC. (Prerequisite: Completion of ENGL 50 with a grade of "C" or better.)

ENGL H102 Honors Composition and Literature 3.0 Units

Further training in writing and introduction to the short story, novel, poetry, and drama. The honors seminar will deepen students' insights into literature and into the process of writing about it. 48-54 hours lecture. CSU, UC. (Prerequisite: Completion of ENGL 101.0 with a grade of "C" or better.)

ENGL H104 Honors Critical Thinking and Composition 3.0 Units

This course is designed to develop the student's critical thinking, reading, and writing skills beyond the level achieved in ENGL 101.0. 48-54 hours lecture. CSU,UC (Prerequisite: completion of ENGL 101.0 with a grade of "C" or better or eligibility as determined by VVC assessment.)

HIST H117 Honors History of the United States to 1876

(CAN HIST 8) 3.0 Units

American civilization, primarily focusing on the British colonies and the US, through the Civil War era. Native American, African and European antecedents will form part of the class. Students will analyze the colonial and revolutionary periods, as well as the Declaration of Independence and the Constitution in the formation of a new nation. The class examines gender and race issues in light of nation building and American culture. Honors classes will take students further into the course material with additional reading, in-class debates and graded roundtable discussion, and a term paper which involved both primary and secondary sources. 48-54 hours lecture. CSU,UC (UC credit limitation.) (No prerequisite. HIST 50 recommended.)

HIST H118 Honors History of the United States from 1876

(CAN HIST 10) 3.0 Units

A survey of American history since Reconstruction after the Civil War with emphasis upon those social, political, and economic factors which most shaped modern America. The honors format will be implemented, including a greater amount of outside reading material and more class time devoted to discussion of that material—with consequently much less actual treatment of the basic textbook, which honors students will be expected to grasp adequately on their own. Particular attention will be focused on the varying viewpoints and interpretations of the important historic questions. 64-72 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

MATH H105 Honors College Algebra

(CAN MATH 10) 4.0 Units

A math course for the well-prepared student. Honors MATH 105 will include the study of exponents and radicals, theory of quadratic equations, simultaneous quadratic equations, complex numbers, equations of higher degree, inequalities, logarithmic and exponential equations, binomial theorem, matrices and determinants, partial fractions, sequences and series. 64-72 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

MATH H120 Honors Introduction to Statistics 5.0 Units

Basic statistical techniques, design and analysis for both parametric and non-parametric data are included. Descriptive statistics are included. Graphing techniques of illustrating the data are covered. Probability is covered. Inferential statistics included are estimation and hypothesis testing, chi-square, analysis of variance, and regression. Applications are drawn from a variety of fields. In addition, the Honors component will include the design of surveys, probability testing, and a research project. 80-90 hours lecture. CSU, UC)

MATH H226 Honors Analytic Geometry and Calculus

(CAN MATH 18) 6.0 Units

As an introduction to the calculus of single variables, students will develop the concept of limit, apply limits to functions to determine if they are continuous, and find the derivative and determine integrals. Students will study the properties of the derivative and integral, their relationship to each other given by the Fundamental Theorem of Calculus and some applications to the real world. 96-108 hours lecture. CSU, UC. Offered Fall, Spring. (Prerequisite: MATH 104 and 105 completed with a grade of "C" or better.)

MATH H227 Honors Analytic Geometry
(CAN MATH 20) and Calculus 5.0 Units

The calculus of logarithmic, exponential, trigonometric and hyperbolic functions, integration techniques, L'Hopital's Rule, improper integrals, infinite series, conic sections, parametric equations, and polar coordinates. In addition, the honors component will include reading proofs, writing complete proofs from sketches of proofs and applying techniques learned to real-life problems. 80-90 hours lecture. CSU, UC (Prerequisite: MATH 226 with a grade of "C" or better.) This course may be taken two times.

MATH H228 Honors Analytic Geometry
(CAN MATH 22) and Calculus 6.0 Units

Vectors and the geometry of space, vector-valued functions, the calculus of functions of several variables, multiple integration, Green's Theorem, divergence theorem, Stoke's Theorem, and applications. In addition, the honors component will include reading proofs, writing complete proofs from sketches of proofs and apply techniques learned to real-life problems. 96-108 hours lecture. CSU, UC (Prerequisite: MATH 227 with a grade of "C" or better.) This course may be taken two times.

PHYS H204 Honors Engineering Physics (Light and Modern Physics)

(CAN PHYS 14 and CAN PHYS SEQ B) 4.0 Units

The nature and propagation of light, reflection and refraction, interference, diffraction, gratings and spectra, polarization, elements of quantum physics, waves and particles. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). Offered Spring semester in odd-numbered years. (Prerequisite: PHYS 203)

POLS H102 Honors American Government and Politics

(CAN GOVT 2) 4.0 Units

Examines the workings of our complex system of American government, including national, California state, and local levels (with emphasis on the national level). This survey will focus on the historical and contemporary development of our Constitution, political institutions, citizen participation, politics, and policies. Critical analysis of classical and contemporary scholarly texts and political oratory will be used extensively to examine the American political experience. 64-72 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

PSYC H101 Honors Introductory Psychology (CAN PSY 2) 4.0 Units
This course provides instruction in the nature of human behavior and a consideration of theories and principles pertaining to the topics of research design and experimentation, perception, emotions and motivation, personality, social psychology, psychopathology, human development, learning, cognition and memory. Includes essential features of the biological and neurological basis of behavior. 64-72 hours lecture. CSU, UC (Eligibility for ENGL 101 recommended)

PSYC H110 Honors Developmental Psychology 4.0 Units
This course includes the theories, methods, and research findings regarding biosocial, cognitive, and psychosocial development of the individual from conception through adulthood, including death, dying, and bereavement. 64-72 hours lecture. CSU Offered Fall, Spring, Summer. (Eligibility for ENGL 101 recommended and satisfactory completion of PSYC 101.)

INDEPENDENT STUDY

IND STUDY 129-149-99 Independent Study (formerly IND STUDY 29-49-99) 1.0-3.0 Units
Individual study, research, or other projects under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and/or departmental recommendation. Designed to provide an opportunity for qualified students to do individual study in a selected area of a subject field. The student may take up to a maximum of six units of Independent Study course work in a particular discipline. Instructor is responsible for providing advice and guidance as required, and for evaluating student performance. (Prerequisite: Formulation of a written statement of purpose acceptable to the instructor and demonstration of sufficient background and skill to undertake the project)

Units are awarded according to the following formula of time committed to the course:

1 unit	54 hours per semester
2 units	108 hours per semester
3 units	162 hours per semester

CSU may limit the number of Independent Study units accepted.

UC maximum credit allowed: three and one-third semester credits per term, six units total, in any or all appropriate subject areas combined. Granting of course credit contingent upon an evaluation of the course outline by a UC campus.

JOURNALISM

JOUR 106 Introduction to Photojournalism 2.0 Units
This lab class is an introduction to the basics of photojournalism including basic photography skills, digital imaging, processing, composition, and production of written news stories. See cross-listing for Photography 6. 96-108 hours laboratory. CSU. (No prerequisite) This course may be taken two times.

JOUR 108 Fundamentals Of Journalism 4.0 Units
The student will learn basics of news and feature reporting and writing while producing the RamPage student newspaper. Topics covered: interviewing techniques, legal/ethical issues, writing strategies. Students produce the campus newspaper using computers and learn about career opportunities. 48-54 hours lecture and 48-54 hours laboratory. CSU. (Prerequisite: ENGL 50 with a grade of "C" or better.)

JOUR 108L Journalism Lab 1.0-3.0 Units
This is a laboratory-only class which requires prior completion of Journalism 8. The student will learn advanced techniques of writing and editing. The student will learn and practice the basics of desktop publishing and increase their overall and increase their overall responsibility in production and distribution of the Victor Valley College student newspaper. 48-54 hours laboratory. CSU. (Prerequisite: JOUR 108 with a grade of "C" or better.) This course may be taken four times.

JOUR 128 Special Topics
See Special Topics listing (Variable units). CSU

JOUR 129 Independent Study
See Independent Study listing (1-3 units). CSU

JOUR 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

LATIN

LATN 101 Elementary Latin 5.0 Units
This course introduces the Latin language and the culture and history of the ancient Roman people. Students complete intensive work on grammar and vocabulary. Special emphasis is given to translating Latin fluently and accurately into English. 80-90 hours lecture and 16-18 hours laboratory. CSU, UC. (No prerequisite. Grade option.) This course may be taken two times.

LATN 102 Elementary Latin 5.0 Units
This course is a continuation of Latin 101. Students study the Latin language and the culture of the ancient Roman people. Students complete intensive work on grammar and vocabulary and apply this knowledge to passages from ancient authors, including Julius Caesar's Gallic Wars. Special emphasis is given to translating Latin fluently and accurately into English.80-90 hours lecture and 16-18 hours laboratory. CSU, UC. (Prerequisite: LATN 101. Grade option.) This course may be taken two times.

MATHEMATICS

MATH 10 Basic Mathematics Skills 3.0 Units
This course covers the basic operations applied to whole numbers, fractions (including mixed numbers) and decimals. Prime factorization, least common multiple, ratio and proportion, similar triangles, averages; graphs and tables, square roots, the Pythagorean theorem, measurement, operations on signed-numbers and solutions of simple linear equations are also covered. 48-54 hours lecture. This course will not apply to the Associate Degree. Offered Fall, Spring, Summer, Winter. (No prerequisite)

MATH 12 Pre-Algebra 3.0 Units
This course covers arithmetic operations with whole, decimal, fractional and signed numbers, basic plane and solid geometry, exponential notation, percent notation, order of operations. Algebraic expressions, solving and graphing linear equations and inequalities, polynomial operations and polynomial factoring are also covered. This course will not apply to the Associate Degree. 48-54 hours lecture. Offered Fall, Spring, Summer, Winter. (Prerequisite: MATH 10 with a grade of "C" or better or eligibility as determined by VVC assessment.)

MATH 30 Mathematics for Health Sciences 4.0 Units
Review of fractions, decimals, whole numbers and percentages. Introduction to the apothecary, metric and household systems of measurement; applications involving oral, intravenous and intramuscular medication administration; system conversions; respiratory care calculations. This course will not apply to the Associate Degree. 64-72 hours lecture. (No prerequisite.)

MATH 50 Elementary Algebra 4.0 Units
This course covers a review of arithmetic operations with whole, decimal, fractional and signed numbers, exponential notations, percentages, and order of operations. Algebraic expressions, solving and graphing linear equations and inequalities, polynomial operations and polynomial factoring, rational and radical expressions and equations, quadratic equations and solutions to quadratic equations are also covered. 64-72 hours lecture. (Prerequisite: MATH 10 or MATH 12 with a grade of "C" or better or eligibility as determined by VVC assessment.)

MATH 50A Elementary Algebra I 3.0 Units
This course covers a review of arithmetic operations with whole, decimal, fractional and signed numbers, exponential notation, percentages, and order of operations. Algebraic expressions, solving and graphing linear equations and inequalities, polynomial operations and polynomial factoring are also covered. Successful completion of MATH 50A and MATH 50B is equivalent to successful completion of MATH 50. 48-54 hours lecture. (Prerequisite: MATH 10 with a grade of "C" or better or placement by VVC assessment.)

MATH 50B Elementary Algebra II 3.0 Units
This course is a continuation of MATH 50A - Elementary Algebra I. The course covers topics including rational expressions, graphing linear inequalities, systems of equations, radical expressions and equations, and solutions to quadratic by different methods. Successful completion of MATH 50A and MATH 50B is equivalent to successful completion of MATH 50. 48-54 hours lecture. (Prerequisite: MATH 50A with a grade of "C" or better.)

MATH 50L Laboratory-Enhanced Study for Math 50 1.0 Unit
A laboratory enhanced study concurrent with Math 50 for students participating in the Student Support Services program. A practical course supplementing instruction in signed number arithmetic, square roots, order of operations, algebraic expressions, solving equations, factoring, graphs of linear equations and solving systems of equations. Eight-nine hours lecture and 16-18 hours individualized instruction. (Prerequisites: completion of MATH 10 with a "C" or better, or Assessment Placement, and referral by Student Support Services. Credit/No Credit) This course may be taken two times.

MATH 60 Geometry 4.0 Units
This course covers Euclidean plane geometry and the development of logical thinking; it also develops visualization skills including congruence, similarity, parallel lines, circle properties, and constructions. 64-72 hours lecture. (Prerequisite: MATH 50 with a grade of "C" or better and ENGL 50 with a grade of "C" or better or eligibility as determined by VVC assessment. Grade Option.) This course may be taken two times.

MATH 70 Math Experiences for Children K-8 3.0 Units
This course emphasizes the development of explorations in mathematics appropriate for the school-age child. The course covers the sequence of topic acquisition, motivating concepts, disguising repetition, project development, group appropriate activities, evaluation techniques and the building of mathematical materials that support discovery. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite.) This course may be taken four times.

MATH 71 Guided Discoveries Practicum 2.0 Units
This course is a laboratory course that provides opportunity to those interested in teaching elementary school, or being a teacher's aide in mathematics, to gain experience preparing and presenting guided experiences for students of elementary age. 96-108 hours laboratory. (No prerequisite. Grade Option) This course may be taken four times.

MATH 90 Intermediate Algebra 4.0 Units
This course is designed to serve as a preparation for the study of College Algebra, Statistics, Trigonometry and other college mathematics courses. Topics include a review of the real number system, an introduction to imaginary and complex numbers, the solution of first degree, quadratic and systems of equations, polynomials, rational expressions, exponents and radicals, graphs of functions (both linear and nonlinear) and of relations, and exponential and logarithmic functions. 64-72 hours lecture. Offered Fall, Spring, Summer, Winter. (Prerequisite: MATH 50 with a grade of "C" or better or eligibility as determined by VVC assessment.) This course may be taken two times.

MATH 104 Trigonometry
(CAN MATH 8) 4.0 Units
Topics for this preparatory course for calculus include trigonometric functions and equations, solutions of both right and oblique triangles, trigonometric forms of complex numbers and De Moivre's Theorem. Course content also includes verification of trigonometric identities, inverse trigonometric functions, half and multiple angles, vectors and their applications, parametric equations, polar coordinates and polar equations. 64-72 hours lecture. CSU. (Prerequisite: MATH 90 with a grade of "C" or better.)

MATH 105 College Algebra
(CAN MATH 10) 4.0 Units
The course offers a review of real numbers, real number exponents, and factoring polynomials. The course also covers equations and inequalities, solutions to systems of equations and inequalities, solutions to equations and inequalities involving absolute value, graphing relations and functions, matrices, determinants of matrices, and matrix algebra. Complex numbers, the real and complex zeros of polynomials, the zeros of exponential, rational and radical functions, the conic sections, sequences, mathematical induction and the binomial theorem are also covered. 64-72 hours lecture. CSU, UC (UC credit limitation). Offered Fall, Spring, Summer, Winter. (Prerequisite: MATH 90 with a grade of "C" or better or eligibility as determined by VVC assessment.) This course may be taken two times.

MATH H105 Honors College Algebra
(CAN MATH 10) 4.0 Units
This course covers all the topics of the regular MATH 105 course, but the topics are covered in greater depth. Exponents and radicals, theory of quadratic equations, simultaneous quadratic equations, complex numbers, equations of higher degree, inequalities, logarithmic and exponential equations, binomial theorem, matrices and determinants, partial fractions, sequences and series. 64-72 hours lecture. CSU, UC (UC credit limitation). (Prerequisite: MATH 90 with a grade of "C" or better or eligibility as determined by VVC assessment.) This course may be taken two times.

MATH 119 Finite Mathematics 3.0 Units
This course covers linear functions and modeling, matrix operations (addition, subtraction, multiplication and inverses), systems of linear equations, introductory linear programming, mathematics of finance, counting techniques. Probability theory, descriptive statistics and distributions, and Markov chains are also covered. 48-54 hours lecture. CSU. (Prerequisite: MATH 90 with a grade of "C" or better.) This course may be taken two times.

MATH 120 Introduction To Statistics
(CAN STAT 2) 4.0 Units
This course covers basic statistical techniques including design and analysis for both parametric and non-parametric data. Descriptive statistics included are measures of central tendency and measures of dispersion. Graphical techniques of illustrating the data are covered. Probability and its application to inferential procedures are covered. Inferential statistics included are estimation and hypothesis testing, chi-square, analysis of variance and regression. Applications are drawn from a variety of fields. 64-72 hours lecture. CSU, UC. Offered Fall, Spring, Summer, Winter. (Prerequisite: MATH 90 with a grade of "C" or better.)

MATH H120 Honors Introduction to Statistics 4.0 Units
Basic statistical techniques, design and analysis for both parametric and non-parametric data are included. Descriptive statistics are included. Graphing techniques of illustrating the data are covered. Probability is covered. Inferential statistics included are estimation and hypothesis testing, chi-square, analysis of variance, and regression. Applications are drawn from a variety of fields. In addition, the Honors component will include the design of surveys, probability testing, and a research project. 64-72 hours lecture. CSU, UC.

MATH 128 Special Topics (formerly MATH 28)
See Special Topics listing (Variable units). CSU, UC.

MATH 129 Independent Study (formerly MATH 29)
See Independent Study listing (1-3 units). CSU

MATH 132 The Ideas Of Math
(CAN MATH 2) 3.0 Units
Sets and their application to permutations, combinations, binomial theorem, correspondence, countability, finite probability measures, and expectation with optional topics in geometry (Euclidean and non-Euclidean, tessellations and fractals) or beginning calculus (derivative and antiderivative of simple polynomial functions. 48-54 hours lecture. CSU, UC. Offered Spring, Fall, Summer, Winter. (Prerequisite: MATH 90 with a grade of "C" or better or eligibility as determined by VVC assessment.) This course may be taken two times.

MATH 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

MATH 216 Business Calculus 4.0 Units
This course is designed for students majoring in Business and Economics. Topics covered include functions and relations, limits and continuity, differentiation, applications of differentiation, integration, and applications of integration. NOTE: MATH 216 - Business Calculus and MATH 226 - Analytic Geometry and Calculus are not the same class. 64-72 hours lecture. CSU. (Prerequisite: MATH 105 or MATH 119.) This course may be taken two times.

MATH 226 Analytic Geometry and Calculus 5.0 Units
This class offers an introduction to the calculus of single variables. Topics covered include limits, using limits of functions to determine continuity, finding derivatives and integrals of functions, basic properties of derivatives and integrals, the relationship between derivatives and integrals as given by the Fundamental Theorem of Calculus, an applications. 80-90 hours lecture. CSU, UC. Offered Fall, Spring. (Prerequisites: Both MATH 104 and 105 with a grade of "C" or better.)

MATH H226 Honors Analytic Geometry and Calculus
(CAN MATH 18) 6.0 Units
As an introduction to the calculus of single variables, students will develop the concept of limit, apply limits to functions to determine if they are continuous, and find the derivative and determine integrals. Students will study the properties of the derivative and integral, their relationship to each other given by the Fundamental Theorem of Calculus and some applications to the real world. In addition, the honors component will include reading proofs, writing complete proofs from sketches of proofs, and applying techniques learned to real-life problems. 96-108 hours lecture. CSU, UC. (Prerequisite: MATH 104 and 105 completed with a grade of "C" or better.)

MATH 227 Analytic Geometry and Calculus
(CAN MATH 20) 5.0 Units
This class covers the calculus of logarithmic, exponential trigonometric and hyperbolic functions, integration techniques, L'Hopital's Rule, improper integrals, infinite series, conic sections, parametric equations and polar coordinates. 80-90 hours lecture. CSU, UC. Offered Fall, Spring. (Prerequisite: MATH 226 with a grade of "C" or better.) This course may be taken two times.

MATH H227 Honors Analytic Geometry
(CAN MATH 20) and Calculus 5.0 Units
The calculus of logarithmic, exponential, trigonometric and hyperbolic functions, integration techniques, L'Hopital's Rule, improper integrals, infinite series, conic sections, parametric equations, and polar coordinates. In addition, the honors component will include reading proofs, writing complete proofs from sketches of proofs and applying techniques learned to real-life problems. 80-90 hours lecture. CSU, UC (Prerequisite: MATH 226 with a grade of "C" or better.) This course may be taken two times.

MATH 228 Analytic Geometry and Calculus
(CAN MATH 22) 5.0 Units
This course covers vectors and the geometry of space, vector-valued functions, the calculus of functions as several variables, multiple integration, Green's Theorem, divergence theorem, Stoke's Theorem and applications. 80-90 hours lecture. CSU, UC. Offered Fall. (Prerequisite: MATH 227 with a grade of "C" or better.) This course may be taken two times.

MATH H228 Honors Analytic Geometry
(CAN MATH 22) and Calculus 6.0 Units
Vectors and the geometry of space, vector-valued functions, the calculus of functions of several variables, multiple integration, Green's Theorem, divergence theorem, Stoke's Theorem, and applications. In addition, the honors component will include reading proofs, writing complete proofs from sketches of proofs and apply techniques learned to real-life problems. 96-108 hours lecture. CSU, UC (Prerequisite: MATH 227 with a grade of "C" or better.) This course may be taken two times.

MATH 231 Linear Algebra 3.0 Units
An introduction to linear algebra that compliments advanced courses in calculus. Topics include systems of linear equations, matrix operations, determinants, vectors and vector spaces, eigenvalues and eigenvectors and linear transformations. With orthogonality, inner product spaces and numerical methods if time permits. 48-54 hours lecture. CSU, UC. Offered Spring. (Prerequisite: MATH 105 with a grade of "C" or better. Recommended preparation: MATH 226 with a grade of "C" or better.) This course may be taken two times.

MATH 270 Differential Equations
(CAN MATH 24) 3.0 Units
This course covers elementary differential equations, solutions of first order equations, linear equations with constant coefficients, simultaneous linear systems, series solutions, the Laplace transform, and applications to physics and engineering. 48-54 hours lecture. CSU, UC. Offered Spring. (Prerequisite: MATH 227 with a grade of "C" or better) This course may be taken two times.

MEDIA ARTS

MERT 50 Principles of Animation 3.0 Units
Students will learn the basics of 3D modeling, how to create and apply realistic textures, lighting principles and techniques, camera types and their appropriate usage, and fundamental keyframing procedures. Other topics to be covered include storyboards, the traditional principles of animation, current industry trends and issues pertaining to rendering output for different mediums (film, video, Internet, etc.) 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite. ART 125, ART 133, or CIS 101 are recommended. Grade Option.) This course may be taken four times.

MERT 51 Advanced Materials, Lighting and Rendering with XSI 3.0 Units

This course covers advanced material techniques using the rendertree, rendering with Mental Ray and advanced lighting techniques. Students will complete a combination of exercises, individual and group projects. Repetition of this course provides the opportunity for increased skill development. 32-36 hours lecture and 48-54 hours laboratory. (Prerequisite: MERT 50. Grade Option.) This course may be taken four times.

MERT 52 Digital Character Animation with Softimage XSI 3.0 Units

This course is an advanced study in digital character animation and feature-length digital media production. This course explores the relationships between anatomy, motion, weight, and timing through a balanced combination of exercises, individual and group projects. Repetition of this course provides the opportunity for increased skill development. 32-36 hours lecture and 48-54 hours laboratory. (Prerequisite: MERT 50. Grade Option.) This course may be taken four times.

MERT 53 Advanced Animation / Demo Reels 3.0 Units

This course is an in depth look at creating an animation production with a final reel being the goal of the class. The course covers camera techniques, staging, modeling, texturing, character development, story development, plot development, storyboarding, titling, and final production using industry standards as guidelines from start to finish. Repetition of this course provides the opportunity for increased skill development. 32-36 hours lecture and 48-54 hours laboratory. (Prerequisite: MERT 52. Grade Option.) This course may be taken four times.

MERT 56 Photoshop for Animators 3.0 Units

Students will learn the concepts and procedures required for creating high quality texture maps and imagery for use in 3D computer animation. Topics will include basic and advanced editing techniques, managing tone and color, layer management, optimization strategies and the use of filters. Compositing techniques will be addressed in detail. Relevant issues dealing with the pre-production process, and industry trends and analysis will also be discussed. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite. Grade Option.) This course may be taken four times.

MERT 74 Digital Video Production 3.0 Units

This course introduces digital video production techniques. Course topics include the operation of digital camcorders, lighting, sound equipment and post production digital editing suites, and the principles of aesthetics of film and video editing. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite. ART 133, CIS 101 are recommended. Grade Option.) This course may be taken four times.

MICROBIOLOGY

See Biology.

MUSIC

MUSC 100 Introduction to Music 3.0 Units

This course is a general introduction to the art of music, its nature, history, materials and vocabulary. The course examines the historical and contemporary value of music to the individual and society. Consideration will also be given to structural organizations of music composition and the characteristic styles of historical periods and important individuals. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite)

MUSC 101 Fundamentals Of Music 3.0 Units

A beginning study of the basic elements of music, including pitch and rhythm recognition, key signatures, intervals, time signatures, and major and minor scales and simple triads. Useful to those wishing to learn to sight read or play an instrument. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (No prerequisite)

MUSC 102 Music Theory Diatonic Practice, Part I 3.0 Units

Comprehensive theory musicianship study centering on basic four part diatonic harmonic practices. Use of triads in root position in all major and minor modes, principles of voice leading including doubling, spacing, voice ranges, part crossings, basic harmonic progression, and melodic construction. Emphasis on written and aural analysis, and creative application of concepts to musical composition. Stresses programmed instruction supported by computer and electronic teaching aids in an interactive classroom environment. Required for those majoring in music and useful to those desiring to write or arrange music for any purpose 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: MUSC l01 or equivalent information as demonstrated by pretest; concurrent enrollment in MUSC 104)

MUSC 103 Music Theory Diatonic Practice, Part II 3.0 Units

Continuation of MUSC 102, comprehensive theory musician-ship study centering on basic four-part diatonic harmonic practices. Use of triads in all positions, principles of voice leading, harmonic progression, non-harmonic tones, and melodic construction. Emphasis on written and aural analysis, and creative application of concepts to musical and electronic teaching aids in an interactive classroom/lab environment. Required for those majoring in music and useful to those desiring to write or arrange music for any purpose. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: MUSC 101 or equivalent information as demonstrated by pretest; concurrent enrollment in MUSC 105)

MUSC 104 Sight Singing/Ear Training Laboratory, Level I 1.0 Unit

Self paced comprehensive individualized training in sight singing, developing mastery in rhythmic sight reading and playing, pitch matching and matching notation to inner hearing, and notating rhythmic and melodic dictation. Drill and practice through computer generated exercises using Music Lab software on the student's own computer and practice and testing in the college Music Computer Lab. Additional practice in small group sessions as needed. Student will pass five quiz levels in each of eight skills on the computer to receive credit for the appropriate course section. This course is open to anyone desiring to learn basic practical music reading skills; it is required of students taking Music Theory 102. 48-54 hours laboratory. CSU, UC. (No prerequisite) (Credit/No Credit)

MUSC 105 Sight Singing/Ear Training Laboratory, Level II 1.0 Unit

Self paced, competency based, comprehensive individualized training in sight singing, developing mastery in rhythmic sight reading and playing, pitch matching and matching notation to inner hearing, and notating rhythmic and melodic dictation. Drill and practice through computer generated exercises using Music Lab software on the student's own computer and practice and testing in the college Music Computer Lab. Additional practice in small group sessions as needed. Student will pass five quiz levels in each of eight skills on the computer to receive credit for the appropriate course section. This course is open to anyone desiring to learn basic practical music reading skills; it is required of students taking Music Theory 104. 48-54 hours laboratory. CSU, UC. (Prerequisite: MUSC 103) (Credit/No Credit)

MUSC 110 Elementary Piano
(CAN MUS 22 = 15 A-B) 1.0 Unit
This course offers practical keyboard facility, sight reading, elementary improvisation and harmonization of folk melodies, and performance of simple piano selections. Useful to those desiring to learn to play the piano, organ or electronic keyboards. 48-54 hours laboratory. CSU, UC. (UC credit limitation). Offered Fall, Spring. (No prerequisite)

MUSC 111 Elementary Piano
(CAN MUS 22 = 15 A-B) 1.0 Unit
This course is a continuation of MUSC 15A and offers practical keyboard facility, sight reading, elementary improvisation and harmonization of folk melodies, and performance of simple piano selections. Useful to those desiring to learn to play the piano, organ or electronic keyboards. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (No prerequisite)

MUSC 116 Music In America 3.0 Units
A survey of music in American life and culture from colonial times to the present, including both popular and art music styles. 48-54 hours lecture. CSU, UC. (No prerequisite)

MUSC 117 History of Jazz 3.0 Units
A survey of jazz from 1900 to the present, including what jazz is, African and European heritages, blues, Dixieland, ragtime, boogie woogie, swing, bop, cool, funky, gospel, third stream, jazz/rock, and free form. Lectures and structured listening and viewing. 48-54 hours lecture. CSU, UC. (No prerequisite)

MUSIC 118 Survey of Rock and Roll 3.0 Units
This course will discuss the unfolding of rock and roll as a modern musical genre. It will also discuss societal influence on its development as well as its impact on modern society. Other styles of contemporary commercial music will be discussed and analyzed within the general historical scope of this survey. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite)

MUSC 120A Applied Music Voice 1.0 Unit
Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

MUSC 120B Applied Music Piano 1.0 Unit
Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

MUSC 120C Applied Music Guitar 1.0 Unit
Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

MUSC 120D Applied Music Upper Strings 1.0 Unit
Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

MUSC 120E Applied Music Low Strings 1.0 Unit
Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

MUSC 120F Applied Music High Brass 1.0 Unit
Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

MUSC 120G Applied Music Low Brass 1.0 Unit
Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

MUSC 120H Applied Music Reeds 1.0 Unit
Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam.48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

MUSC 120I Applied Music Woodwinds 1.0 Unit
Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Dept..) This course may be taken four times.

MUSC 120J Applied Music Percussion 1.0 Unit
Coordinates the development of the music major's performance proficiency in their primary instrument. A minimum of fifteen half hour lessons per semester with a teacher approved by the Music Department and at least two and one half hours of individual practice, either on or off campus. Payment for lessons will be worked out directly between the teacher and student. All applied students will perform on faculty/student recitals and/or juried exam. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: For music transfer students. Declared music major. Demonstrated performance ability or potential on the instrument in question at an acceptable proficiency level, as demonstrated by audition. Audition criteria can be obtained from the Music Department.) This course may be taken four times.

MUSC 122 Beginning Voice Production 1.0 Unit
Fundamental techniques of proper voice production including healthy use of the voice for speaking and singing. Teaches proper relaxation and support techniques, speech intensification, vocal freedom and resonance, and emotional support for the singing and speaking process. Designed to meet the needs of those who use their voices for solo and/or ensemble singing or in such vocally intense activities as teaching, group leading, sales, coaching, or for those taking courses in speech communication and acting. 48-54 hours laboratory. Offered Fall, Spring. CSU, UC. (No prerequisite)

MUSC 123 Intermediate Voice Class 1.0 Unit
Application of the vocalization techniques of Music 41 to the study of vocal performance. Attention to diction, tone color, song styles and interpretation. Some basic instruction in Italian, French or German diction. Intensive solo performance in a wide range of musical styles. Useful to anyone desiring to continue the development of the singing voice and performance potential. Repetition of the class provides opportunity for increased skills development. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: MUSC 122 or equivalent skills, i.e. formal basic instruction in fear control, proper body relaxation, breath support, vocal focus and some experience in solo vocal performance.) This course may be taken four times.

MUSC 124 Beginning Guitar 1.0 Unit
This course offers the study and performance of music for the beginning guitarist. It gives the student with no knowledge of guitar performance the opportunity to learn basic reading skills through simple guitar pieces. Some public performance will be required. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (No Prerequisite.)

MUSC 125 Beginning Guitar 1.0 Unit
This course offers further study and performance of music for the beginning guitarist. It gives the student with minimal knowledge of guitar performance the opportunity to learn basic reading skills through simple guitar pieces. Some public performance will be required. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (No prerequisite)

MUSC 126 Guitar Ensemble 1.0 Unit
This course offers the study and performance of music for guitar ensemble. It gives the student with basic knowledge of guitar performance skill the opportunity to perform in an ensemble setting. Some public performance will be required. Repetition provides for increased skill development. 48-54 hours laboratory. CSU, UC. (Prerequisite: Student must audition.) This course may be taken four times.

MUSC 128 Special Topics
See Special Topics listing (Variable units). CSU, UC.

MUSC 129 Independent Study
See Independent Study listing (1-3 units).

MUSC 130 Women's Choir 1.0 Unit
A treble choir of female voices to perform repertoire from all styles and periods of music written or arranged for treble choir. Emphasis on the development of the total choral musicianship skills of each singer within the group context. Choir will perform at various college and community functions. 48-54 hours laboratory. CSU, (UC credit pending) (No prerequisite. Credit/No Credit) This course may be taken four times.

MUSC 131 The College Singers 3.0 Units
A select chamber choral ensemble of mixed voices to perform at various college and community functions. Repertoire includes significant choral music from all periods of music history, including motets and madrigals, part songs, masses and cantatas with orchestra, 20th century choral songs, and spirituals, vocal jazz and Broadway arrangements. Music is most often performed in the original languages. Emphasis on development of the total choral musicianship skills of each singer. Group may tour out of state or to Europe. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: Solo audition. Applicant should possess strong basic choral/vocal skills and experience in choral singing i.e. ability to sing on pitch with a well supported, clear choral tone; strong ear able to retain and accurately recall parts learned; basic sight reading skills; team player willing to take direction. Number of singers accepted in any section may be limited by the requirements of part balance and the repertoire planned for that semester.) (Grade option) This course may be taken four times.

MUSC 132 Master Arts Chorale 1.0 Unit
A large choral ensemble dedicated to the performance of major choral works from all musical periods, often with orchestra. Group may tour from time to time in the United States and abroad. Membership open by audition to all students as well as to members of the community. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: Solo audition to determine ability to match pitch, sing in tune, carry a harmony part, level of music reading. Prior choral experience in a high school, college/university, community or church choir desirable.) (Credit/No Credit) This course may be taken four times.

MUSC 134 Musical Theatre Lab 1.0 Unit
Preparing the vocal and instrumental music for the college's musical productions. Participation as major leads, supporting roles, chorus or orchestra members as determined by audition. Enrollment in B, C, and D provides the opportunity for increased skill development. 48-54 hours laboratory. CSU, UC. Offered Spring. (Prerequisite: Demonstrated ability at an acceptable level of proficiency, as evidenced by audition. Grade option) This course may be taken four times.

MUSC 135 Beginning Band 0.5 Unit
This course will be a study and performance of standard elementary band literature composed for the beginning and intermediate level wind and percussion literature. Proper breathing and phrasing techniques will be emphasized along with specific instrument performance technique. 24-27 hours laboratory. CSU (Prerequisite: Student must audition. Credit/No Credit.) This course may be taken four times.

MUSC 136 College Symphonic Band 1.0 Unit
This course will emphasize the performance of standard college wind literature. Proper playing and performance technique will be stressed. Warm-up skills will be developed along with scale studies and rhythmic refinement. At least two public performances will be required. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite. Student must audition. Credit/No credit) This course may be taken four times.

MUSC 138 Cooperative Education
See Cooperative Education listing (1-8 Units). CSU

MUSC 139 Studio Band 1.0 Unit
This course provides playing experience in the field of dance, jazz and popular music, including at least two public performances a semester. Improvisation skills, sight reading skills, ear training skills, and performance practice skills will be emphasized. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: Student must audition. Credit/No Credit) This course may be taken four times.

MUSC 140 Studio Singers 1.0 Unit
A select vocal ensemble dedicated to the study and performance in jazz styles arranged for vocal jazz ensemble. Appearances at public and private functions will be made throughout the year. Subsequent enrollment in additional semesters will provide the student an opportunity for additional skill and competency development with the subject matter. 48-54 hours laboratory. CSU, UC. (Prerequisite: Student must audition. Credit/No Credit) This course may be taken four times.

MUSC 141 Jazz Rock Combo 1.0 Unit
This course applies the beginning principles and skills for jazz performance within the jazz combo medium. Improvisation, music theory, stylistic interpretation and ensemble are applied to the appropriate level for the individual student. Public performance is included as a course requirement. 48-54 hours laboratory. CSU, UC. (Prerequisite: Student must audition. Credit/No Credit) This course may be taken four times.

MUSC 143 Beginning String Ensemble 0.5 Unit
This course will be a beginning study and performance of standard string orchestra literature composed for the beginning string player. Proper left hand position (excluding the use of third position), beginning bow techniques, appropriate performance practices will be emphasized. 24-27 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: Students must audition for this ensemble. Alternative course is MUSC 137. Credit/No Credit.) This course may be taken four times.

MUSC 144 Preludium String Ensemble 0.5 Unit
This course will be an intermediate study and performance of standard string orchestra literature composed for the intermediate string player. Proper left hand position (excluding the use of third position), intermediate bow techniques, appropriate performance practices will be emphasized. 24-27 hours laboratory. CSU (Prerequisite: Student must audition for this ensemble. Alternative course is Music 137. Credit/No Credit.) This course may be taken four times.

MUSC 145 College Symphony Orchestra 0.5 Unit
This course will be a study and performance of standard full orchestral literature for the beginning and intermediate string, wind and percussion player. Emphasis will be on ensemble skills, ear training and performance practices. 24-27 hours laboratory. CSU, UC (Prerequisite: Student must audition.) This course may be taken four times.

MUSC 147 Brass Choir 0.5 Unit
This course will explore brass choir literature and performance through the baroque up to the 21st century. Specific technical skills will be addressed including breathing, phrasing, tonguing and ornamentation practices. Public performances are required. 24-27 hours laboratory. CSU, UC (Prerequisite: Student must audition. Credit/No credit) This course may be taken four times.

MUSC 202 Advanced Theory Chromatic Practice 3.0 Units
The study of chromatic harmonic practices, including all types of seventh chords, dominant seventh and leading tone seventh functions, secondary dominants and secondary leading tone chords, altered non harmonic tones, modulation to closely related keys, and borrowed chords. Continued development of basic musicianship skills, including visual and aural seventh chord recognition, rhythmic reading, melodic, contrapuntal and harmonic dictation. Emphasis on individualized programmed instruction, including the use of computers, small group and other interactive teaching aids. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: Completion of MUSC 102; concurrent enrollment in MUSC 203)

MUSC 203 Sight Singing/Ear Training Laboratory, Level III 1.0 Unit
Self paced, competency based, comprehensive individualized training in sight singing, developing mastery in rhythmic sight reading and playing, pitch matching and matching notation to inner hearing, and notating rhythmic and melodic dictation. Drill and practice through computer generated exercises using Music Lab software on the student's own computer and practice and testing in the college Music Computer Lab. Additional practice in small group sessions as needed. Student will pass five quiz levels in each of eight skills on the computer to receive credit for the appropriate course section. This course is open to anyone desiring to learn basic practical music reading skills; it is required of students taking Music Theory 202. 48-54 hours laboratory. CSU, UC. (Prerequisite: MUSC 105) (Credit/No Credit)

MUSC 204 Advanced Theory Chromatic Practice, Part II 3.0 Units
Extends the concepts in MUSC 3A through use of foreign modulations, borrowed and augmented chords, neopolitan and other sixth chords, chromatic third relation harmony and ninth, eleventh and thirteenth chords. Continued development of basic musicianship skills, including visual and aural seventh chord recognition, rhythmic reading, melodic, contrapuntal and harmonic dictation. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: Completion of MUSC 202)

MUSC 205 Sight Singing/Ear Training Laboratory, Level IV 1.0 Unit
Self paced comprehensive individualized training in sight singing, developing mastery in rhythmic sight reading and playing, pitch matching and matching notation to inner hearing, and notating rhythmic and melodic dictation. Drill and practice through computer generated exercises using Music Lab software on the student's own computer and practice and testing in the college Music Computer Lab. Additional practice in small group sessions as needed. Student will pass five quiz levels in each of eight skills on the computer to receive credit for the appropriate course section. This course is open to anyone desiring to learn basic practical music reading skills; it is required of students taking Music Theory 204. 48-54 hours laboratory. CSU, UC. (Prerequisite: MUSC 203) (Credit/No Credit)

MUSC 210 Intermediate Piano 1.0 Unit
This course offers the continued development of keyboard facility from including harmonization of given melodies using appropriate intermediate accompaniments, furthered exploration of piano repertoire and related skills, styles and technical exercises. Two octave major and minor scales, arpeggios, and harmonization skills will be explored. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (No prerequisite)

MUSC 211 Intermediate Piano 1.0 Unit
This course offers the continuation and development of practical keyboard facility from accompaniments, exploration of piano repertory and related stylistic and technical exercises. The study of basic elements of music, including pitch and rhythm recognition, key signatures, intervals, time signatures, major and minor scales, and simple triads. Useful to those wishing to learn to sight read or play an instrument, and for those who wish to write music. 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (No prerequisite)

NURSING

NURS 49 Knowledge Review for Pre-Nursing Students 2.0 Units
This course is designed to assist those who have completed the requirements to enter the nursing program but who have not achieved the minimum score on the Test of Essential Academic Skills (TEAS) or have been on the waiting list long enough to need a review of scholastic subjects and study skills. (Prerequisite: Acceptance into VVC Nursing Progam AND failure to achieve at least 67% score on the TEAS. Pass/No Pass.) This course may be taken two times.

NURS 138 Cooperative Education
(See Cooperative Education 1-8 units). CSU

NURS 148 Special Topics
See Special Topics listing (Variable units).

NURS 149 Independent Study
See Independent Study listing (1-3 units).

NURS 220 Pharmacology and Nursing Management 2.0 Units
This course is a nursing class about the study of drug therapy to prevent, diagnose, or cure disease processes or to relieve signs and symptoms of diseases. It includes content specific to the registered nurse and utilization of the nursing process to fulfill nursing responsibility in medication management of clients. 32-36 hours lecture. CSU (Prerequisite: Admission to the Nursing Program as required by BRN.)

NURS 221 Nursing Process 1 10.0 Units
An introduction to the Victor Valley College Associate Degree Nursing Program and the nursing profession. Emphasis is on the Nursing Process and fundamentals of nursing; including risk management, health promotion, psycho-social aspects, electrolyte and acid-base management, and the perioperative experience practiced in various clinical settings and the classroom laboratory. 90 hours lecture and 270 hours laboratory. CSU. (Prerequisite: Anatomy, Physiology, and Microbiology completed with a "C" or better. (Corequisite: NURS 220)

NURS 222 Nursing Process 2 9.0 Units
The Nursing Process applied to family nursing and the childbearing family, the adaptations of nursing care for various stages of growth and development, and the nursing management required in common adult conditions; e.g., nutritional, tissue perfusion, elimination. 72 hours lecture and 270 hours laboratory. CSU (Prerequisite: NURS 220 and NURS 221)

NURS 223 Nursing Process 3 9.0 Units
The Nursing Process applied to critical care areas, psychiatric/mental health and complex geriatric care. Emphasis will be on client adaptation in chronic and acute illness. 72 hours lecture and 270 hours laboratory. CSU (Prerequisite: NURS 222)

NURS 224 Nursing Process 4 9.0 Units
The Nursing Process applied with a holistic view to multi-system problems with a comprehensive approach in the hospital and community setting. Clinical experience demonstrates the use of legal, ethical, and leadership principles, and the ability to function with minimum supervision as a preceptor. 72 hours lecture and 270 hours laboratory. CSU (Prerequisite: NURS 223)

NURS 225 Licensed Vocational Nurse (LVN) to Registered Nurse (RN) Transition Course 1.0 Unit
A transition course with emphasis on role development for the Licensed Vocational Nurse (LVN) entering the VVC Registered Nurse (RN) program. Includes concepts of nursing process, Nursing Practice Act, critical thinking, problem solving, and skill proficiency. 16-18 hours lecture. CSU. (Prerequisites: Current California Licensure as an LVN and Physiology and Microbiology [Mandated - State of California].)

NURS 226 Critical Cardio Respiratory Nursing 2.0 Units
This optional nursing course provides an introduction to critical care nursing environment. Pathophysiology, diagnosis, treatment and nursing implication for patients in the critical care area will be discussed. This course will benefit primarily students going into their third semester of nursing as well as other medical personnel with medical, surgical or cardiac care background. 32-36 hours lecture. CSU. (Prerequisites: NURS 222 and/or licensed as a Registered Nurse or Licensed Vocational Nurse. Grade Option.)

NURS 227 Paramedic to RN Bridge 10.0 Units
This bridge course is designed to ready the paramedic nursing student to the adjustment of culture, language and practice of the profession of nursing. Roles, functions, and practice settings for the paramedic and associate degree nurse will be compared and discussed. Emphasis is on the nursing process and fundamentals of nursing, including risk management, health promotion, psycho-social aspects, electrolyte and acid-base management, and the peri-operative experience practiced in various clinical settings and the classroom laboratory. 80-90 hours lecture and 240-270 hours laboratory. (Prerequisites: NURS 246 with a minimum grade of 'C' or better and TEAS score of 67% or greater and student must be experienced paramedic.) This course may be taken two times.

NURS 245 Nursing Leadership and Management 3.0 Units
Leadership and management techniques used in various health care settings, with emphasis on problem solving within the changing role of nursing as it relates to patient care and professional relationships. 32-36 hours lecture and 48-54 hours laboratory. (Prerequisite: NURS 223 or equivalent with a "C" or better, or permission of the Nursing Program Director). Contact Nursing Dept. Offered intermittently.

NURS 246 Assessment and Nursing Skills 3.0 Units
Focuses on development of assessment skills including obtaining a health history, performing physical assessment of the adult, and evaluating physiologic changes related to aging and pediatric patient population. Emphasis on developing interviewing skills, assessing cultural factors, and utilization of basic assessment techniques. 32-36 hours lecture and 48-54 hours laboratory. (Prerequisite: Acceptance into the VVC Nursing Program.) This course may be taken two times.

OCEANOGRAPHY

OCEA 101 Oceanography 3.0 Units
An introduction to the marine environment. Methods and techniques of exploration, physics, and chemistry of the oceans; adaptation of organisms; significance of the marine environment to man. A general survey of the major aspects of oceanography; history, topography and geography, geology, chemistry, physics, meteorology, biology, and resource management. 48-54 hours lecture. Offered Fall and Spring. CSU, UC. (No prerequisite)

PHILOSOPHY

PHIL 101 Introduction To Philosophy (CAN PHIL 2) 3.0 Units
Introduction to the field of philosophy through a discussion of enduring questions about the nature of existence, knowledge, and value. 48-54 hours lecture. CSU, UC. Offered Fall, Winter, Summer, Spring (No prerequisite. Recommend ENGL 50 or eligibility for ENGL 101.0)

PHIL 108 Contemporary Moral Issues (CAN PHIL 4) 3.0 Units
Critical study of major ethical theories and their application to contemporary moral issues in bio-medical practice, law and violence, sexuality, social and economic justice, the environment, and business conduct. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite. Eligibility for ENGL 101.0 or ENGL 50 recommended) This course may be taken three times.

PHIL 109 Introduction to Logic (CAN PHIL 6) 3.0 Units
Introduction to the study and practice of reasoning: argument analysis and evaluation, induction, deduction, fallacies, categorical logic, propositional logic. Assignments require use of the computer. 48-54 hours lecture. CSU, UC. Offered Fall, Winter, Spring, Summer. (No prerequisite.)

PHIL 114 Political Philosophy 3.0 Units
A survey of political theory and major figures in the history of political philosophy. Questions concerning the role of government, natural rights and the relationship between government and the individual will be explored by evaluating the works of philosophers such as Plato, Aristotle, Locke, and Marx. 48-54 hours lecture. CSU, UC. (No prerequisite. Eligibility for ENGL 101.0 recommended.) This course may be taken two times.

PHIL 117 Philosophy of Religion 3.0 Units
Introduction to major topics in the philosophy of religion: the existence and nature of God, the nature and possibility of religious knowledge, the meaning of religious language, and concepts of immortality and human destiny. Special attention is given to conflicts between religion and science, competing claims for religious truth, the feminist critique of traditional religion, and the relevance of religion to social ethics. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite. Eligibility for ENGL 101.0 or ENGL 50 recommended.) See cross listing for RLST 117. This course may be taken three times.

PHIL 120 Ancient and Medieval Philosophy 3.0 Units
Introduction to the major movements and figures of Western Philosophy in the ancient and medieval periods: the Pre-Socratics, Socrates, The Sophists, Plato, Aristotle, Augustine, Anselm, and Aquinas. 48-54 hours lecture. CSU,UC. Offered Fall. (No prerequisite. Eligibility for ENGL 101.0 recommended.)

PHIL 121 Introduction to Modern and Contemporary Philosophy 3.0 Units
Survey of major Western philosophers and movements since the Renaissance: Continental Rationalism, British Empiricism, Kant, Hegel, Marx, Utilitarianism, Nietzsche, Pragmatism, Analytic Philosophy, Existentialism, Phenomenology, and Postmodernism. 48-54 hours lecture. CSU, UC. Offered Spring. (No prerequisite: Eligibility for ENGL 101.0 or ENGL 50 recommended.) This course may be taken three times.

PHIL 128 Special Topics
See Special Topics listing (Variable units). CSU, UC.

PHIL 129 Independent Study
See Independent Study listing (1-3 units).

PHIL 207 Introduction to Critical Thinking 3.0 Units
Study and practice in critical thinking and advanced English composition: analysis, evaluation, and formulation of arguments; critical study of texts; and composition of critical essays. Application of critical thinking and writing skills to current moral, social, and religious issues. See cross listing for RLST 207. 48-54 hours lecture. CSU,UC. Offered Fall, Spring. (Prerequisite: ENGL 101.0 with a minimum grade of 'C'.) This course may be taken three times.

PHOTOGRAPHY

PHOT 50 Commercial Photographic Applications 2.0 Units
This course will introduce the application of photographic imaging to the commercial marketplace. It will stress the use of photography as it applies to the graphic design field as well as portraiture, product and editorial applications. Business principles of this field will also be covered. 16-18 hours lecture and 24-27 hours laboratory. (No prerequisite) This course may be taken three times.

PHOT 51 Environmental Photography 3.0 Units
This course will cover basic camera exposure and composition for a variety of outdoor settings. Topics include: landscape photography, animal photography, flower photography, sports photography, macro photography and outdoor portraits. The uses and understanding of filters, flash and film. Some field trips will be required. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

PHOT 52 Introduction to Photoshop 3.0 Units
This course will introduce the basics of Adobe PhotoShop and its application to digital photography utilizing the Macintosh and PC platforms. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken three times.

PHOT 53 Basic Photographic Lighting Techniques 3.0 Units
This course will introduce the student to the fundamentals of lighting and its application to imaging processes. A broad range of topics will be covered that include portraiture, product and commercial applications. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken two times.

PHOT 54 Portfolio Design 2.0 Units
This course will present visual problems for the student to solve for the purpose of creating a traditional and digital portfolio. 24-27 hours lecture and 24-27 hours laboratory. (No prerequisite. PHOT 100 and PHOT 101 recommended.) This course may be taken four times.

PHOT 100 Beginning Photography 3.0 Units
This is a course that introduces the basics of black and white photography. Technical and conceptual topics will be covered. Students will furnish their own cameras with manual controls. 32-36 hours lecture and 48-54 hours laboratory. CSU,UC. Offered Fall, Spring. (No prerequisite. Grade Option.) This course may be taken four times.

PHOT 101 Intermediate Photography 3.0 Units
This course will concentrate upon the use of 35mm format cameras. The use of exposure meters, lighting techniques, and black and white filters, RC and fiber base papers will be incorporated with individual projects. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered alternate semesters. (No prerequisite)

PHOT 103 Alternative Imaging Process 3.0 Units
This course emphasizes special effects that may be gained by manipulation of black and white photo-sensitive materials and hand coloring. 32-36 hours lecture and 48-54 hours laboratory. CSU. Offered alternate years. (No prerequisite)

PHOT 105 Portraiture 3.0 Units
This course will cover studio and outdoor portrait techniques as well as elements of commercial photography and may be completed with digital or film based cameras. . 32-36 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. PHOT 100 or equivalent recommended.) This course may be taken two times.

PHOT 106 Introduction to Photojournalism 2.0 Units
This lab class is an introduction to the basics of photojournalism including basic photography skills, digital imaging, processing, composition, and production of written news stories. See cross-listing for JOUR 106. 96-108 hours laboratory. CSU. (No prerequisite.) This course may be taken two times.

PHOT 129 Independent Study
See Independent Study listing (1-3 units). Offered Fall, Spring.

PHOT 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

PHYSICAL EDUCATION

GENERAL PHYSICAL EDUCATION COURSES

PE 76 Athletic Training III 2.0-6.0 Units
In this course, students will provide the pre-participation, on-site first aid and event maintenance for fall/winter/spring sports programs at VVC (baseball, basketball, football, golf, soccer, softball, tennis, volleyball and wrestling.) Experience will include but is not limited to, prophylactic taping and padding, immediate first aid, monitoring vital signs, completion of accident forms, proper use of universal biohazard precautions, supervision of safe playing conditions and coaching techniques, recognition of medical emergencies, assisting other medical personnel as needed, game preparation and pre-participation medical screenings. See cross listing for ALDH 76. 108-324 hours laboratory. (Prerequisite: PE 141 or ALDH 141, Athletic Training I, or equivalent.) This course may be taken four times.

PE 77 Athletic Training IV 2.0-6.0 Units
In this course, students will provide the care to athletes involved in fall/winter/spring sports programs at VVC (baseball, basketball, football, golf, soccer, softball, tennis, volleyball and wrestling.) Experience will include but is not limited to development and implementation of rehabilitation protocols. Use of modalities including, whirlpool, ultrasound, ice, Emergency Medical Services, hydrocolator, Range of Motion exercises, joint mobilization, strengthening exercises (isokinetic, isotonic, isometric), cardiovascular conditioning and proprioceptive exercises. See cross listing for ALDH77. 108-324 hours laboratory. (Prerequisite: PE 141 or ALDH 141, Athletic Training I, or equivalent.) This course may be taken four times.

PE 101 Introduction to Exercise Science and Kinesiology 3.0 Units
An introduction and orientation to the discipline of Kinesiology. It includes an analysis of the importance of physical activity in daily life, the relationship between physical activity and the discipline of Kinesiology. The course surveys the general knowledge base of the discipline as reflected in the major sub-disciplines and reviews selected ideas in each, showing how they contribute to our understanding of the nature and importance of physical activity. In addition this course explores career opportunities and the developmental history of the discipline using critical analysis and comparative analysis of literature, philosophy, and scientific research. 48-54 hours lecture. CSU,UC. (No prerequisite. Grade Option.)

PE 103 History and Appreciation of Dance 3.0 Units
The origin, growth, and development of dance (in all forms) will be researched. A study of dances originating in many areas of the world will be covered. The class will research who, when, where, and how each dance originated. The class will trace dance from its origin to modern times. 48-54 hours lecture. CSU,UC. (No prerequisite. Grade Option.)

PE 104 Psychology of Physical Performance 3.0 Units
An introduction to the discipline of sports psychology for students with no previous background in the field. Topics include: orientation to sports psychology, motivational techniques, individual differences and sport behavior, social-environmental influences and sports behavior, and intervention techniques and sports behavior. 48-54 hours lecture. CSU (No prerequisite. Grade Option.) This course may be taken two times.

PE 105 Developmental Movement of Children 3.0 Units
This course provides a comprehensive overview of theories and methods relating to the development of a physical education program for children ages 0-11 years including children with special needs and abilities. Emphasis is on the application of principles of physical growth and development to the teaching and acquisition of specific physical skills. The course curriculum is consistent with the California State Department of Education Physical Education Framework. 48-54 hours lecture. CSU (No prerequisite) This course may be taken two times.

PE 128 Special Topics
See Special Topics listing (Variable units). CSU UC.

PE 140 Care and Prevention of Injuries Related to Physical Activity 3.0 Units
An introduction to the principles and processes of athletic training. Study of the components of training: preventive techniques, injury recognition and classification, management processes, emergency techniques, rehabilitation processes, body part labeling and functions, and drug/tobacco usage by athletes. Focus is on the broad basis of caring for the athlete's injuries by utilizing methods, objectives, and information from physical education and biological sciences. 48-54 hours lecture. Offered Fall, Spring. CSU, UC. (No prerequisite)

PE 141 Athletic Training I 3.0 Units
Introduction to principles of athletic training, including prevention, evaluation, treatment and rehabilitation of common athletic injuries. 40-45 hours lecture and 24-27 hours laboratory. CSU. UC. See cross listing for ALDH/41. Offered Fall, Spring. (No prerequisite. Interest and/or experience in athletics and sports recommended.)

PE 142 Athletic Training II 3.0 Units
This course will build on the students basic knowledge of human anatomy and athletic injuries. Topics will include emergency procedures, current health concerns of the athlete, protective devices, advanced taping techniques and injury management. See cross listing for ALDH 142. 48-54 hours lecture and 16-18 hours laboratory. CSU. UC. (Prerequisite: PE 141 or ALDH 141 Athletic Training I, or equivalent.)

PE 150 Lifetime Fitness Concepts 2.0 Units
Designed to help the students understand the role of physical fitness in daily living. Will cover the "how" and the "why" of physical activity. The course will acquaint the student with the human body's structure and functions in relation to physical activity. Students will be introduced to methods of evaluating their own fitness needs and design a program for present and future needs. 16-18 hours lecture and 48-54 hours laboratory. CSU. (No prerequisite. Grade option) This course may be taken two times.

PE 160 Physical Fitness 1.0 Unit
An exercise course designed to emphasize fitness by offering the student a variety of exercises and aerobic work which can be used to maintain fitness throughout life. Repetition provides the opportunity for increased skill development. 48-54 hours laboratory. CSU, UC (UC credit limitation). Offered Fall, Spring, Summer. (No prerequisite. Grade option) This course may be taken four times.

PE 162 Weight Training I 1.0 Unit
Introduction to the basic techniques of weight training. The principles of strength development, the role of proper nutrition, the physiology of muscle tissue, the major muscles of the body, and safety will be presented in class. Various weight lifting programs covering strength development, endurance, and body building will also be introduced. 48-54 hours laboratory. CSU,UC (UC credit limitation). (No prerequisite. Grade Option) This course may be taken four times.

PE 163 Weight Lifting II 1.0 Unit
A weight lifting course for those students who have been consistently participating in a weight lifting program for 6-12 months for at least three hours per week. This course is designed to emphasize continued individual growth in the areas of body building, body sculpturing and strength at an intermediate level. Repetition of the course provides the opportunity for increased skill development. 48-54 hours laboratory. CSU, UC (UC credit limitation). Offered Fall, Spring. (No prerequisite. Grade option.) This course may be taken four times.

PE 164 Aerobic Weight Training 1.0 Unit
Aerobic weight training combines strength and cardiovascular fitness training into a comprehensive weight training program that has as its major objective the development of all-around fitness. It offers measurable benefits to muscular strength, muscular endurance, body composition, flexibility, and cardiovascular/ aerobic fitness. 48-54 hours laboratory. CSU, UC (UC credit limitation). Offered Fall, Spring, Summer. (No prerequisite. Grade option) This course may be taken four times.

PE 165 Basketball 1.0 Unit
An introduction to the basic skills, rules, and strategies of basketball including: catching, passing, shooting, and dribbling. Repetition of the course provides the opportunity for increased skill development. 48-54 hours laboratory. CSU, UC (UC credit limitation). Offered Fall, Spring, Summer. (No prerequisite. Grade option) This course may be taken four times.

PE 166 Volleyball 1.0 Unit
This course is designed to cover the basic rules , techniques and skills, game strategies, and highlights officiating points of volleyball. 48-54 hours laboratory. CSU,UC (UC credit limitation). (No prerequisite. Grade Option.) This course may be taken four times.

PE 168 Self Defense 1.0 Unit
An in-depth look into the skills of self defense. Defensive strategies to protect oneself from attack. Also, the necessary steps to take to avoid an attack. Designed for all ages. 48-54 hours laboratory. CSU, UC (UC credit limitation). Offered Fall, Spring, Summer. (No prerequisite. Grade option) This course may be taken four times.

PE 180 Tennis 1.0 Unit
The course offers logical sequences of learning experiences that include: basic tennis strokes; rules that govern play; understanding of game strategies; individual practice drills, and learning the equipment and safety involved. 48-54 hours laboratory. CSU, UC (UC credit limitation). Offered Fall, Spring, Summer. (No prerequisite. Grade option) This course may be taken four times.

PE 181 Golf 1.0 Unit
Covers the use and skill development of equipment including woods, irons and putters. Includes the reading of greens, distance and selection of clubs, etiquette and rules of golf. 48-54 hours laboratory. CSU, UC (UC credit limitation). Offered Fall, Spring, Summer. (No prerequisite. Grade option) This course may be taken four times.

PE 185 Football Techniques and Conditioning 2.0 Units
Course will include drills and exercises to develop the skills, techniques, and conditioning essential for participation in intercollegiate football. 96-108 hours laboratory. CSU, UC (UC credit limitation). Offered Fall, Spring, Summer. (No prerequisite. Grade option) This course may be taken four times.

PE 190 Yoga 1.0 Unit
This course is an introduction to basic yoga practices and principles. Instruction includes classifications of yoga postures as well as guided relaxations and breathing practices. The benefits of yoga include increased flexibility, strength, balance, body awareness and stress reduction. This course is designed for students of all ages and fitness levels. 48-54 hours laboratory. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

DANCE COURSES

PEDA 160 Tap I 1.0 Unit
Developing skill in tap dancing will be the focus. Skills learned will be a prerequisite to more advanced techniques and which can be used to advance to a more advanced tap class. See cross listing for TA 160. 48-54 hours laboratory. CSU (No prerequisite. Grade Option) This course may be taken four times.

PEDA 161 Tap II 1.0 Unit
Development of intermediate knowledge of skill in tap dancing, commonly used in musical productions and theater. See cross listing for TA 161. 48-54 hours laboratory. CSU (Prerequisite: Student may be required to audition and be approved by instructor for entrance to class. Grade option) This course may be taken four times.

PEDA 162 Ballroom Dance I 1.0 Unit
Techniques, styles and rhythms of basic social dances from selected historical periods. Emphasis on exploring the movement characteristics of the dances through dancing. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

PEDA 166 Ballet I 1.0 Unit
Technique and style of beginning ballet dance. Emphasis on exploring the movement characteristics of ballet through dancing. See cross listing for TA 166. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

PEDA 167 Ballet II 1.0 Unit
Technique and style of secondary level II ballet dance. Emphasis on exploring the movement characteristics of level II ballet through dancing. See cross listing for TA 167. 48-54 hours laboratory. CSU (No prerequisite. Grade option) This course may be taken four times.

PEDA 169 Yogalates 1.0 Unit
This course in Yogalates is based on the Pilates concepts developed by Joseph Pilates and Yoga. The course will include Pilates core matwork and Yoga and will emphasize improved body alignment, strength, flexibility, control, concentration, circulation, coordination, breathing and help reduce stress. 48-54 hours laboratory. CSU (No prerequisite. Grade Option.) This course may be taken four times.

PEDA 170 Jazz Dance I 1.0 Unit
Technique and style of beginning jazz dance. Emphasis on exploring movement characteristics of jazz dance in all forms. See cross listing for TA 170. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

PEDA 171 Jazz Dance II 1.0 Unit
Technique and style of level II jazz dance. Emphasis on exploring the movement characteristics of secondary level of jazz through dancing. See cross listing for TA 171. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

PEDA 174 Modern Dance I 1.0 Unit
Technique and style of beginning modern dance. Emphasis on exploring the movement characteristics of level I modern dance through dancing. See cross listing for TA 174. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

PEDA 175 Modern Dance II 1.0 Unit
Technique and style of secondary level II modern dance. Emphasis on exploring the movement characteristics of secondary level II modern dance through dancing. See cross listing for TA 175. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

PEDA 176 Dance Rehearsal and Performance I 1.0-3.0 Units
This course is designed to introduce students to the methods used for dance rehearsal and performance. Students will learn the etiquette of dance rehearsal and performance, develop skills needed for quick pick up in dance choreography, and performance skills needed for dance production purposes. Repetition of this course provides an increase of developed skills. 48-54 hours laboratory per unit, per term. CSU (No prerequisite. Grade option) This course may be taken four times.

PEDA 177 Dance Rehearsal and Performance II 1.0-3.0 Units
This course is designed to introduce students to the methods used for secondary levels of dance rehearsal and performance. Students will learn the etiquette of dance rehearsal and performance, develop skills needed for quick pick up in dance choreography and performance skills needed for dance production purposes. Repetition of this course provides an increase of developed skills. 48-54 hours laboratory per unit. CSU (No prerequisite. Grade option) This course may be taken four times.

PEDA 178 Ballet Folklorico Dance I 1.0 Unit
This introductory course is designed so that students are exposed to the basic elements of Ballet Folklorico dance. Different techniques from various regions in Mexico will be covered. 48-54 hours laboratory. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

PEDA 180 Dance in Musical Theater 1.0 Unit
This course is an in-depth performance experience focusing on styles of body movement for Musical Theatre stage productions. The fundamentals of dance will be reviewed, including basic ballet positions and exercises and basics in tap. Concepts of the history of dance in musical stage will also be explored. 48-54 hours laboratory. CSU. (No prerequisite. Grade Option.) This course may be taken four times.

PEDA 266 Ballet III 1.0 Unit
Technique and style of intermediate level III ballet dance. Emphasis on exploring the movement characteristics of intermediate level III ballet dance through dancing. See cross listing for TA 266. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

PEDA 267 Ballet IV 1.0 Unit
Technique and style of advanced level IV ballet dance. Emphasis on exploring the movement characteristics of advanced level IV ballet dance through dancing. See cross listing for TA 267. 48-54 hours laboratory. CSU (No prerequisite. Grade option) This course may be taken four times.

PEDA 270 Jazz Dance III 1.0 Unit
Technique and style of intermediate level III jazz dance. Emphasis on exploring the movement characteristics of intermediate level III jazz through dancing. See cross listing for TA 270. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

PEDA 271 Jazz Dance IV 1.0 Unit
Technique and style of level IV jazz dance. Emphasis on exploring the movement characteristics of advanced level IV jazz through dancing. See cross listing for TA 271. 48-54 hours laboratory. CSU,UC (No prerequisite. Grade option) This course may be taken four times.

PEDA 274 Modern Dance III 1.0 Unit
Technique and style of intermediate level III modern dance. Emphasis on exploring the movement characteristics of intermediate level III modern dance through dancing. See cross listing for TA 274. 48-54 hours laboratory. CSU,UC (No prerequisite. Grade option) This course may be taken four times.

PEDA 275 Modern Dance IV 1.0 Unit
Technique and style of advanced level IV modern dance. Emphasis on exploring the movement characteristics of advanced level IV modern dance through dancing. See cross listing for TA 275. 48-54 hours laboratory. CSU,UC (No prerequisite. Grade option) This course may be taken four times.

PEDA 276 Dance Rehearsal and Performance III 1.0 Unit
This course is designed to introduce students to the methods used for intermediate dance rehearsal and performance. Students will learn the etiquette of dance rehearsal and performance, develop skills needed for quick pick up in dance choreography, and performance skills needed for dance production purposes. Repetition of this course provides an increase of developed skills. 48-54 hours laboratory. CSU (No prerequisite. Grade option) This course may be taken four times.

ADAPTED PHYSICAL EDUCATION COURSES

APE 160 Adapted Physical Exercise 1.0 Unit
Individualized fitness program designed for those with limitations. An individualized fitness program designed to maintain or increase current fitness level. Activities include postural skills, elements of fitness, relaxation and body concepts. Repetition of the course enhances or maintains current movement of fitness level. 48-54 hours laboratory. CSU, UC. (UC credit limitation). Offered Fall, Spring, Summer. (Prerequisite: Physical condition limiting participation in regular physical education courses. Medical release applicable. Grade option.) This course may be taken four times.

APE 166 Adapted Cardiovascular Training 1.0 Unit
This course is designed to meet the needs of students with disabilities who require restricted or modified activities. Individualized cardiovascular exercise programs will be performed by students with instruction covering the elements of physical fitness. Emphasis will be placed on cardiovascular training principles and techniques. 48-54 hours laboratory. CSU (No prerequisite. Grade Option.) This course may be taken four times.

APE 167 Adapted Weight Training 1.0 Unit
This course is designed to meet the needs of students with disabilities who require restricted or modified activities. Individualized exercise programs will be performed by students with instruction covering the elements of physical fitness through weight training. Emphasis will be placed on principles and techniques. 48-54 hours laboratory. CSU (No prerequisite. Grade Option.) This course may be taken four times.

APE 169 Adapted Cardiac Rehabilitation 1.0 Unit
This course is designed to meet the needs of students with disabilities/special needs who require restricted or modified activities pertaining to the heart. Individualized exercise programs for cardiac rehab students will be performed with instruction covering the elements of cardiovascular fitness. Emphasis will be placed on the special needs of this population. 48-54 hours laboratory. CSU (No prerequisite. Grade Option.) This course may be taken four times.

APE 183 Adapted Walking for Fun Fitness 1.0 Unit
This course is designed to meet the needs of students who require restricted or modified activities. Individualized cardiovascular exercise programs will be performed by students with instruction covering the elements of physical fitness. Emphasis will be placed on cardiovascular training principles and techniques through walking. 48-54 hours laboratory. CSU (No prerequisite. Grade Option.) This course may be taken five times.

APE 185 Adapted Sports and Games 1.0 Unit
The adapted sports and games course is designed to develop student's gross motor skills and to facilitate their participation in life-long activities enhancing improved fitness, self-esteem, and social interaction. Activities include but are not limited to bowling, softball, and frisbee. Fitness, rules, and sportsmanship will also be discussed. 48-54 hours laboratory. CSU (No prerequisite. Grade Option.) This course may be taken four times.

PHYSICAL SCIENCE

PSCI 101 Principles Of Physical Science 3.0 Units
A general education course dealing with basic concepts of the physical sciences including astronomy, geology, meteorology, and oceanography. 48-54 hours lecture. CSU, UC (UC credit limitation). Offered Fall, Spring. (No prerequisite)

PSCI 128 Special Topics
See Special Topics listing (Variable units). CSU, UC.

PSCI 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

PHYSICS

PHYS 100 Introductory Physics 4.0 Units
An introduction to general physics for students who have not had physics, or who have not had physics recently. Fundamental principles of mechanics, waves, heat, electricity and magnetism, light, atomic and nuclear physics. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: MATH 50 with a grade of "C" or better.)

PHYS 128 Special Topics
See Special Topics listing (Variable units). CSU, UC.

PHYS 129 Independent Study
See Independent Study listing (1-3 units). CSU

PHYS 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

PHYS 201 Engineering Physics (1A-B-C-HD: CAN PHYS SEQ B) 4.0 Units
Course material includes a study of vectors, rectilinear motion, motion in a plane, particle dynamics, work and energy, conservation laws, collisions, rotational kinematics and dynamics. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: MATH 226 with a minimum grade of 'C'. MATH 226 may be taken concurrently.) This course may be taken two times.

PHYS 202 Engineering Physics (Mechanics Of Fluids, Heat and Sound) (1A-B-C-HD: CAN PHYS SEQ B) 4.0 Units
Equilibrium of rigid bodies, oscillations, gravitation, fluid statics and dynamics, waves in elastic media, sound, and thermodynamics. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: PHYS 20l and MATH 227. MATH 227 may be taken concurrently)

PHYS 203 Engineering Physics (Electricity and Magnetism) (CAN PHYS 12) and (1A-B-C-HD: CAN PHYS SEQ B) 4.0 Units
Charge and matter, the electric field, electric potential, capacitors and dielectrics, direct current and resistance, electromotive force and circuits, the magnetic field, inductance, magnetic properties of matter, electromagnetic oscillations, alternating currents, electromagnetic waves, and the Maxwell Equations. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: PHYS 202 and MATH 228. MATH 228 may be taken concurrently)

PHYS 204 Engineering Physics IV 4.0 Units
Course material includes the nature and propagation of light, reflection and refraction, interference, diffraction, gratings and spectra, relativity, elements of quantum physics, waves and particles, nuclear physics. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: PHYS 203.) This course may be taken two times.

PHYS H204 Honors Engineering Physics (Light and Modern Physics) (CAN PHYS 14) and (1A-B-C-HD: CAN PHYS SEQ B) 4.0 Units
The nature and propagation of light, reflection and refraction, interference, diffraction, gratings and spectra, relativity, elements of quantum physics, waves and particles. See Honors Program listing for further information on admission to the Honors Program. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: PHYS 203)

PHYS 221 General Physics I (CAN PHYS 2) 4.0 Units
Vectors, motion in one and two dimensions, particle dynamics, work and energy, conservation laws, collisions, rotational motion and dynamics, thermodynamics. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: MATH 104 and MATH 226. MATH 226 may be taken concurrently.) This course may be taken two times.

PHYS 222 General Physics II (CAN PHYS 4) 4.0 Units
Electromagnetic theory, oscillations, waves, geometrical optics, interference and diffraction quantum physics, atomic and nuclear physics. 48-54 hours lecture and 48-54 hours laboratory. CSU, UC (UC credit limitation). (Prerequisite: PHYS 221; corequisite: MATH 227. Recommended preparation: PHYS 100 is strongly recommended.) This course may be taken two times.

PHYSIOLOGY

See Biology.

POLITICAL SCIENCE

POLS 90A Model United Nations A 3.0 Units
This course introduces students to the theory and practice of international diplomacy through participation in Model United Nations simulations. The course focuses on the history, structure, and functions of the United Nations; international bargaining and diplomacy' conflict resolution; researching and writing position papers and resolutions; and public speaking. Students are not required to attend a Model United Nations Conference. 48-54 hours lecture. Offered Spring. (No prerequisite. Grade option) This course may be taken four times.

POLS 90B Model United Nations B 3.0 Units
This course introduces students to the theory and practice of international diplomacy through participation in Model United Nations simulations. The course focuses on the history, structure, and functions of the United Nations; international bargaining and diplomacy' conflict resolution; researching and writing position papers and resolutions; and public speaking. Students are not required to attend a Model United Nations Conference. 48-54 hours lecture. Offered Spring. (No prerequisite. Grade option) This course may be taken four times.

POLS 90C Model United Nations C 3.0 Units
This course introduces students to the theory and practice of international diplomacy through participation in Model United Nations simulations. The course focuses on the history, structure, and functions of the United Nations; international bargaining and diplomacy' conflict resolution; researching and writing position papers and resolutions; and public speaking. Students are not required to attend a Model United Nations Conference. 48-54 hours lecture. Offered Spring. (No prerequisite. Grade option) This course may be taken four times.

POLS 90D Model United Nations D 3.0 Units
This course introduces students to the theory and practice of international diplomacy through participation in Model United Nations simulations. The course focuses on the history, structure, and functions of the United Nations; international bargaining and diplomacy' conflict resolution; researching and writing position papers and resolutions; and public speaking. Students are not required to attend a Model United Nations Conference. 48-54 hours lecture. Offered Spring. (No prerequisite. Grade option) This course may be taken four times.

POLS 91A Individual Events 2.0 Units
Model United Nations individual events training for intercollegiate United Nations conferences and competitions. Instruction and direction for delegate training. Preparation for international current event debates, parliamentary debate and conflict resolution. Participate in conferences and competitions simulating policies and conflicts within the United Nations. 16-18 hours lecture and 32-36 hours individualized instruction. (No prerequisite. Grade Option.)

POLS 91B Individual Events 2.0 Units
Model United Nations individual events training for intercollegiate United Nations conferences and competitions. Instruction and direction for delegate training. Preparation for international current event debates, parliamentary debate and conflict resolution. Participate in conferences and competitions simulating policies and conflicts within the United Nations. 16-18 hours lecture and 32-36 hours individualized instruction. (No prerequisite. Grade Option.)

POLS 91C Individual Events 2.0 Units
Model United Nations individual events training for intercollegiate United Nations conferences and competitions. Instruction and direction for delegate training. Preparation for international current event debates, parliamentary debate and conflict resolution. Participate in conferences and competitions simulating policies and conflicts within the United Nations. 16-18 hours lecture and 32-36 hours individualized instruction. (No prerequisite. Grade Option.)

POLS 91D Individual Events 2.0 Units
Model United Nations individual events training for intercollegiate United Nations conferences and competitions. Instruction and direction for delegate training. Preparation for international current event debates, parliamentary debate and conflict resolution. Participate in conferences and competitions simulating policies and conflicts within the United Nations. 16-18 hours lecture and 32-36 hours individualized instruction. (No prerequisite. Grade Option.)

POLS 101 Introduction to Political Science 3.0 Units
An introduction to modern politics and the scope of political science as a discipline. Presents a comprehensive survey of the study of political science, modern political ideologies and movements, participation, institutions of government, political issues and foreign affairs of nation-states around the world. 48-54 hours lecture. CSU, UC. Offered Fall, Spring, Summer. (No prerequisite)

POLS 102 Introduction To American Government and Politics
(CAN GOVT 2) 3.0 Units
Analysis of the Constitution and study of its historical development. Surveys the powers, structure, and operation at the national, California state, and local levels with emphasis upon the national level. Examination of the causes, consequences, and possible solutions to important problems in contemporary America. 48-54 hours lecture. CSU, UC (UC credit limitation). Offered Fall, Winter, Spring, Summer. (No prerequisite)

POLS H102 Honors American Government and Politics
(CAN GOVT 2) 4.0 Units
Examines the workings of our complex system of American government, including: national, California state, and local levels (with emphasis on the national level). This survey will focus on the historical and contemporary development of our Constitution, political institutions, citizen participation, politics, and policies. Critical analysis of classical and contemporary scholarly texts and political oratory will be used extensively to examine the American political experience. 64-72 hours lecture. CSU, UC (UC credit limitation). Offered Spring. (No prerequisite)

POLS 103 State and Local Government 3.0 Units
An introduction to the study of the American political system at the state and local levels of government. Examines the workings of our complex system of federalism by focusing on contemporary state and local government institutions, citizen participation, political problems, politics, and policies. Emphasis is given to the analysis of California political issues, politics and government. 48-54 hours lecture. CSU. Offered Spring. (No prerequisite)

POLS 110 Contemporary World Affairs 3.0 Units
An introduction to the analysis of the historical development and contemporary setting of political relations between and among nation-states, trans-national movements, and international organizations. Introduces the analytical approaches to the study of world affairs and theories of international conflict and cooperation. Explores the variety of governmental and non-governmental entities on the world stage today, their foreign policy goals and interests, and instruments and uses of power. Examines contemporary issues confronting the global community and the historical development and uses of international law and organizations. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite)

POLS 111 Global Issues 3.0 Units
This course is a survey of contemporary international issues and international organizations. Topics, such as "terrorism," geopolitical relationships, and ethnic conflicts, will be examined within the context of the United Nations system and its related regional organizations. This course will assist students to prepare for Model United Nations conference competitions. Participation in the Model United Nations conference competitions is voluntary and not a requirement for this course. 48-54 hours lecture. CSU, UC. Offered Fall, Winter, Spring. (No prerequisite. Grade Option) This course may be taken four times.

POLS 112 Comparative Government 3.0 Units
An introduction to the comparative analysis of contemporary political systems and their environments around the world. Examines current political institutions, citizen participation, political problems, politics, and policies within these systems. Emphasis is given to selected nation-states in order to provide a broader, representative knowledge encompassing a variety of modern political systems and environments reflecting the geographic regions of the world. 48-54 hours lecture. CSU, UC. Offered Fall. (No prerequisite)

POLS 113 Politics of the Middle East and North Africa 3.0 Units
This course will examine the Middle East and North Africa through a comparative politics perspective. This will include an examination of the following items: an overview of the region's histories, geographies, peoples, cultures, religions and languages; the fundamentals of the Islamic and Judaic belief systems; current events such as the Israeli-Palestinian conflict, the War in Iraq and other real potential geopolitical conflicts. 48-54 hours lecture. CSU, UC. (No prerequisite. Grade option) This course may be taken four times.

POLS 120 Leadership 2.0 Units
This course is designed for any student interested in leadership within an organization. The course will assist students interested in campus leadership positions to identify effective leadership characteristics and their role in institutional maintenance and change. Focus will include (but is not limited to) developing leadership styles, needs assessment, policy, finance, public speaking, parliamentary procedure, comparative forms of collegial governmental process, communication skills, program, development and evaluative methods. 32-36 hours lecture and 15 hours laboratory. CSU. Offered Fall. (No prerequisite) This course may be taken four times.

POLS 128 Special Topics
See Special Topics listing (Variable units). CSU, UC.

POLS 129 Independent Study
See Independent Study listing (1-3 units).

POLS 130 Introduction to Paralegal Studies 3.0 Units
This course introduces the student to the paralegal profession with an emphasis on the developing role of the paralegal in the American legal system. This survey course introduces legal terminology, techniques and concepts of legal research and writing, ethical rules for attorneys and paralegals, legal reasoning, and concepts of substantive areas of the law. Emphasis will be placed on the functions of a paralegal within a private law firm, within a government agency, as a business owner, and as a litigation assistant. 48-54 hours lecture. CSU. Offered Fall, Spring, Summer. (No prerequisite)

POLS 131 Fundamentals of Litigation for Paralegals 3.0 Units
Examines the intricate working of the American court system and the role of the paralegal in litigation practice. This survey will focus on the litigation process that begins with a client interview, extends through the filing of a lawsuit, develops into discovery stage, takes final shape in the trial stage and ends in enforcement of a judgment or an appeal. Critical analysis of statutory and judicial rules for the conduct of litigation will be used extensively to provide a strong foundation for operating within the legal field. 48-54 hours lecture. CSU. Offered Fall. (No prerequisite)

POLS 133 Legal Ethics for Paralegals 3.0 Units
This course examines the role of the paralegal in the rendering of legal services by attorneys to clients and the problematic matter of ethical rules that govern that relationship. The student will become familiar with the concept of the unauthorized practice of law, the criminal penalties such practice carries and the best means to avoid liability for it. Comprehensive study of the multiple categories of ethical rules will give the student a broad base from which to operate ethically and legally in the field of law. 48-54 hours lecture. CSU. Offered Spring. (No prerequisite)

POLS 134 Family Law for Paralegals 3.0 Units
This course examines family law rules and procedures and the role of the paralegal in a family law practice. The student will become familiar with family law concepts including marital contracts, annulment, separation, dissolution, child custody and support, alimony, property divisions, adoption and tax consequences of family law procedures. Students will also become acquainted with current problems in family aw including the demise of marriage, homosexual marriages and adoptions and surrogate motherhood. 48-54 hours lecture. CSU. Offered Fall. (No prerequisite)

POLS 136 Legal Writing for Paralegals 3.0 Units
This course provides the paralegal student with the development of good legal writing skills. Critical analysis of proper legal writing forms stressing logic, clarity and format will be used to shape the paralegal student's ability to produce such legal documents as correspondence, legal briefs, memorandum of law, pleadings, and appellate briefs. 48-54 hours lecture. CSU. (No prerequisite.)

POLS 137 Beginning Legal Research for Paralegals 3.0 Units
This course provides the paralegal student with a beginning introduction to the sources and means of legal research. The course will focus on developing the student's ability to locate and use various types of legal authority including legal encyclopedias, constitutions, statutes, court opinions, administrative regulations, and appellate decisions. The student will be expected to learn and practice Shepardizing and citation checking skills. 48-54 hours lecture. CSU. (No prerequisite.)

POLS 139 Wills and Trusts for Paralegals 3.0 Units
This course introduces the paralegal student to the laws of Wills, Trusts and Estates, including the creation of wills, testate succession, intestate succession, trust creation and arrangements, family protection, estate planning, probate courts, and estate taxes. 48-54 hours lecture. CSU. (No prerequisite.)

POLS 135 Tort Law for Paralegals 3.0 Units
This course introduces the paralegal to the world of tort law ; takes them through the basic concepts that are the foundation of all tort cases (duty, breach of duty, negligence or willfulness, proximate cause, foreseeability and damages); presents the categories of tort litigation and finally covers the privileges and immunities that will defeat a tort lawsuit. 48-54 hours lecture. CSU. Offered Spring. (No prerequisite)

POLS 138 Cooperative Education
See Cooperative Education listing (1-8 units).

PSYCHOLOGY

PSYC 101 Introductory Psychology (CAN PSY 2) 3.0 Units
This course provides instruction in the nature of human behavior and a consideration of theories and principles pertaining to the topics of research design and experimentation, perception, emotions and motivation, personality, social psychology, psychopathology, human development, learning, cognition and memory. Includes essential features of the biological and neurological basis of behavior. 48-54 hours lecture. CSU, UC Offered Fall, Spring, Summer. (No prerequisite. Eligibility for ENGL 101 recommended)

PSYC H101 Honors Introductory Psychology (CAN PSY 2) 4.0 Units
This course provides instruction in the nature of human behavior and a consideration of theories and principles pertaining to the topics of research design and experimentation, perception, emotions and motivation, personality, social psychology, psychopathology, human development, learning, cognition and memory. Includes essential features of the biological and neurological basis of behavior. 64-72 hours lecture. CSU, UC Eligibility for ENGL 101 recommended.

PSYC 102 Introduction To Experimental Psychology 3.0 Units
The psychology experiment, critiques of published research, basic statistical procedures. Each student conducts and reports several experiments. 48-54 hours lecture. CSU, UC. (No prerequisite)

PSYC 103 Personal and Social Adjustment 3.0 Units
Approaches to understanding of personality, the dynamics of personality, personal adjustment, mental hygiene. 48-54 hours lecture. CSU. (No Prerequisite. Grade option)

PSYC 105 Personal and Career Success 3.0 Units
This intensive course is designed to assist students in obtaining the skills and knowledge necessary to identify and reach their personal goals and achieve college and career success. Topics covered include: self-awareness, goal-setting, motivation and discipline, memory development, time management, oral and written communication skills, study skills, diversity, financial planning, and an orientation to college life. See cross listing for GUID 105. 48-54 hours lecture. CSU. (No prerequisite. Grade Option.)

PSYC 108 Identifying and Helping Survivors Of Dysfunctional Families 3.0 Units
This course explores the symptoms, theories, and dynamics of family dysfunction. Family dysfunction contributes to drug addiction, alcoholism, depression, promiscuity, unfulfilling relationships, co-dependency, family violence, stress disorders, and other psychopathologies. Theories and strategies of intervention and recovery for victims are presented emphasizing the breaking of destructive patterns and promotion of wellness. 48-54 hours lecture. CSU. Offered Fall, Spring. (No prerequisite) This course may be taken two times.

PSYC 109 Neuropsychological Basis of Behavior 3.0 Units
The course relates states and behaviors such as addiction, cirdadian rhythms, emotion, learning, thought, memory, motivation, movement, reproduction, sensation and perception, sleep and abnormal behavior to the structure and function of the nervous system. The roles of medications/illicit drugs, hormones, exercise and nutrition are also examined. 48-54 hours lecture. CSU. (No prerequisite)

PSYC 110 Developmental Psychology 3.0 Units
This course includes the study of the theories, methods, and research findings regarding biosocial, cognitive, and psychosocial development of the individual from conception through adulthood, including death, dying, and bereavement. 48-54 hours lecture. CSU, UC (UC credit limitation). Offered Fall, Spring, Summer. (No prerequisite. Eligibility for ENGL 101 and satisfactory completion of PSYC 101 recommended.)

PSYC H110 Developmental Psychology Honors 4.0 Units
This course includes the study of the theories, methods, and research findings regarding biosocial, cognitive, and psychosocial development of the individual from conception through adulthood, including death, dying, and bereavement. 64-72 hours lecture. CSU, UC Offered Fall, Spring, Summer. Eligibility for ENGL 101 recommended and satisfactory completion of PSYC 101.

PSYC 111 Introduction To Child Psychology 3.0 Units
A study of the physical, intellectual, emotional, and social development of the child extending from the prenatal period through adolescence. 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

PSYC 121 Human Sexuality and Intimacy 3.0 Units
This is a survey course of human sexual and intimate behaviors throughout the life cycle. It includes the physiological, psychological, sociological, and theoretical approaches of human sexuality, the cultural legacy of human sexuality, variations of sexual behaviors and intimate relationships, sexuality throughout the life cycle, sexual disorders and related social issues. 48-54 hours lecture. CSU, UC. Offered Fall, Spring, Summer. (No prerequisite.)

PSYC 125 Introduction To Counseling 3.0 Units
An introduction to principles and practices of counseling concepts will be the primary focus. A systematic consideration of the basic skills and theories essential for effective counseling and problem solving. 48-54 hours lecture. CSU. (No prerequisite. PSYC 101 recommended.)

PSYC 128 Special Topics
See Special Topics listing (Variable units). CSU, UC.

PSYC 129 Independent Study
See Independent Study listing (1-3 units).

PSYC 133 Introduction To Drug/Alcohol Studies 3.0 Units
This course will provide a historical perspective on drug/alcohol abuse, its impact on the individual, the family, the community and society. Definitions of use, abuse, and addiction will be presented as well as the disease concept of addiction. The effectiveness and economics of various models of treatment and rehabilitation will be explored. 48-54 hours lecture. CSU, UC (UC credit limitation). (No prerequisite)

PSYC 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

PSYC 204 Social Psychology 3.0 Units
The focus of this course is the relationship between the individual and society including such topics as social identity, conformity, obedience and deviance, attitudes and attitude change, attribution theory, persuasion, prejudice and stereotyping, aggression and prosocial behavior, interpersonal relationships, group dynamics, and conflict and conflict resolution. 48-54 hours lecture. CSU, UC. (Prerequisite: PSYC 101)

PSYC 213 Abnormal Psychology 3.0 Units
This course explores the history and classifications of psychological disorders, symptom criteria, clinical assessment, diagnosis, and the major theoretical treatment modalities. The Psychoanalytic, Cognitive-Behavioral, Humanistic, Biological, and Socio-Cultural theories are emphasized, How we define, assess, treat, and study psychological disorders from each theoretical perspective is the thematic focus of the course. A variety of class exercises are used to illustrate and understand the etiology, symptoms, diagnosis, and treatment of psychological disorders. 48-54 hours lecture. CSU, UC. (No prerequisite)

RELIGIOUS STUDIES

RLST 101 Introduction to Religious Studies 3.0 Units
Introduction to the primary forms of religious experience and expression and to the structure of religious worldviews. Examples from a variety of societies and time periods introduce and illustrate such topics as religious symbols, myths, ritual, and communities, as well as alternative concepts of ultimate reality, cosmogony, theodicy, and soteriology. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite. Recommended preparation: ENGL 50 or eligibility for ENGL 101.0 is recommended.) This course may be taken two times.

RLST 105 Religions of the Ancient Near East, the Hebrew Scriptures, and the Old Testament 3.0 Units
Introduction to the religious history of the ancient Near East. Historical study of the sources, contents, interpretation, and religious and historical significance of the Hebrew Scriptures and the Old Testament. 48-54 hours lecture. CSU,UC. Offered Fall, Spring. (No prerequisite. Recommend ENGL 50 or eligibility for ENGL 101.0.)

RLST 106 Introduction to the New Testament and Early Christian Literature 3.0 Units
Historical introduction to classical Mediterranean religion and culture. Comparative literary, historical, and sociological analysis of the New Testament and early Christian literature. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite. Recommended preparation: ENGL 50 or eligibility for ENGL 101.0 is recommended.) This course may be taken two times.

RLST 110 Religions of the Middle East and the West 3.0 Units
Survey of the history, beliefs, and practices of the major religious traditions of the Middle East and West; ancient Greek, Roman, Egyptian, Mesopotamian, and Persian religions; indigenous religions; Mesoamerican religions; Judaism; Christianity; Islam; new religious movements. 48-54 hours lecture. CSU,UC. Offered Fall, Spring. (No prerequisite. Recommend ENGL 50 or eligibility for ENGL 101.0.)

RLST 111 Religions of South and East Asia 3.0 Units
Survey of the history, beliefs, and practices of the major religions of East and South Asia: Hinduism, Buddhism, Jainism, Sikhism, Confucianism, Taoism, and Shinto. Discussion of modern challenges to traditional religion and the emergence of new religious movements inspired by Asian traditions. 48-54 hours lecture. CSU,UC. Offered Fall, Spring. (No prerequisite. Recommend ENGL 50 or eligibility for ENGL 101.0.)

RLST 113 Religion and Society 3.0 Units
Study of the interaction between social forces and religious belief and practice, with an emphasis on contemporary American social and religious life. Special topics include the social aspects of evangelical religion, the interaction of religion and politics, the relation between religion and gender, and the impact of globalization. 48-54 hours lecture. CSU. Offered Fall, Spring. (No prerequisite. Recommended preparation: ENGL 50 or eligibility for ENGL 101.0 is recommended.) This course may be taken two times.

RLST 115 Religion In America 3.0 Units
Historical study of religion in America, including both its diversity and unifying factors. Major topics include Native American religion, Judaism, Roman Catholicism, Protestantism Christianity, African-American religion, American sects, metaphysical and occult religions, Asian religions, and religious dimension of public life, politics, and popular culture. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite. Eligibility for ENGL 101 recommended)

RLST 117 Philosophy of Religion 3.0 Units
Introduction to major topics in the philosophy of religion: the existence and nature of God, the nature and possibility of religious knowledge, the meaning of religious language, and concepts of immortality and human destiny. Special attention is given to conflicts between religion and science, competing claims for religious truth, the feminist critique of traditional religion, and the relevance of religion to social ethics. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite. Eligibility for ENGL 101.0 or ENGL 50 recommended.) See cross listing for PHIL 117. This course may be taken three times.

RLST 207 Introduction to Critical Thinking 3.0 Units
Study and practice in critical thinking and advanced English composition: analysis, evaluation, and formulation of arguments; critical study of texts; and composition of critical essays. Application of critical thinking and writing skills to topics in the areas of values and religion. See cross listing for PHIL 207. 48-54 hours lecture. CSU,UC. Offered Fall, Spring. (Prerequisite: ENGL 101.0)

RLST 128 Special Topics
See Special Topics listing (Variable units). CSU, UC.

RLST 129 Independent Study
See Independent Study listing (1-3 units). CSU

RESPIRATORY THERAPY

RSPT 50 Polysomnography I 4.0 Units
Topics include sleep terminology, sleep structure and disorders, complete patient set-up and data acquisition. Students will also learn the basics of noninvasive treatments for certain sleep disorders. 48-54 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken four times.

RSPT 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

RSPT 149 Independent Study
See Independent Study listing (1-3 units).

RSPT 230 Introduction to Respiratory Therapy 3.0 Units
Introduces the student to respiratory therapy as a health science profession, including history, professional requirements, responsibilities, professional organizations, and credentialing of the respiratory care practitioner. Provides basic anatomy and physiology, physics and math, and basic cardio-pulmonary pathology in order to give the student a foundation of theory and application. 48-54 hours lecture. CSU. Offered Summer. (Prerequisite: MATH 50, CHEM 100, BIOL 100 or 107 and formal admission to the Respiratory Therapy Program)

RSPT 231 Orientation to the Basic Fundamentals of Respiratory Therapy 10.0 Units
This course continues with a more advanced discussion of medical terminology, anatomy, physiology and cardiopulmonary pathology as it relates to the clinical applications of medial gas therapy, humidity and aerosol therapy, therapeutic and diagnostic modalities, and infection control. Students will be provided with an extensive orientation to the hospital environment and the administration of basic respiratory therapy to patients. 64-72 hours lecture and 324 hours laboratory. CSU. Offered Fall. (Prerequisite: RSPT 230 with a grade of "C" or better.)

RSPT 232 Patient Assessment and Clinical Application of Respiratory Therapy 10.0 Units
This course is a more in-depth study of the theory and application of respiratory therapy. Its content includes airway management, pulmonary assessment, advanced cardiopulmonary physiology and the pharmacology associated with pulmonary patients. The student will spend 16 hours a week in the hospital administrating respiratory modalities to patients. 64-72 hours lecture and 288-324 hours clinical. CSU. Offered Spring. (Prerequisite: RSPT 231 with a grade of "C" or better)

RSPT 233 Intensive Respiratory Care and Advanced Pulmonary Physiology 13.0 Units
A more advanced study of the theory and application of respiratory care. The content will include: mechanical life support, respiratory physiology, equipment utilized in the critical care unit, microbiology, arterial puncture and analysis, endo-tracheal intubation, and principles of advanced cardiac life support. 64-72 hours lecture and 54 hours laboratory plus 432 hours clinical. CSU. Offered Fall. (Prerequisite: RSPT 239, BIOL 211, BIOL 231, with a grade of "C" or better.)

RSPT 234 Neonatal and Pediatric Respiratory Care and Related Pathophysiology 13.0 Units
This course is a more advanced study of the theory and application of neonatal/pediatric respiratory care. The content will include: mechanical life support, respiratory pathophysiology, equipment utilized in the NICU/PICU, microbiology, umbilical line, capillary blood samples and analysis, endotracheal intubation, and principles of PALS and NRP. 64-72 hours lecture. 48-54 hours laboratory and 384-432 hours clinical CSU. Offered Spring. (Prerequisite: RSPT 233 and BIOL 221 with a grade of "C" or better)

RSPT 239 Introduction To Continuous Mechanical Ventilatory Support 2.0 Unit
This course introduces the principles of mechanical ventilation, allows hands-on experience with current ventilators, and reinforces therapeutic care. 16-18 hours lecture and 48-54 hours laboratory. Offered Summer. (Prerequisite: Completion of RSPT 232 with a "C" or better)

RSPT 241 Basic Principles of Respiratory Therapy 5.0 Units
A self-paced equivalent of RSPT 231 for students meeting the advanced placement criteria. Successful completion requires demonstration of mastery of the classroom, laboratory, and clinical objectives equivalent to RSPT 231. 160 hours laboratory. CSU. Offered Fall. (Prerequisite: Graduation from a one-year, CoARC accredited program; active CRT/RCP credential; and 1000+ hours of recent clinical experience.)

RSPT 242 Patient Assessment and Clinical Application of Respiratory Care 5.0 Units
A self-paced equivalent of RSPT 232 for students meeting the advanced standing criteria. Successful completion requires demonstration of mastery for the classroom, laboratory and clinical objectives equivalent to RSPT 232. 160 hours laboratory. CSU. Offered Spring. (Prerequisite: Graduation from a one-year, CoARC accredited program; active CRT/RCP credential; and 1000+ hours of recent clinical experience.)

RSPT 243 Clinical Simulation 1.0 Unit
This course will prepare individuals for the NBRC's WRRT and Clin Sim examinations. Those already certified (CRT) and designated registry eligible by NBRC will be able to review, evaluate, and improve their clinical assessment and decision-making skills and test taking skills. 16-18 hours lecture. Offered Spring. (Prerequisite: Satisfactory completion of RSPT 233 with a grade of "C" or better OR RCP/CRT credentials with "registry eligibility" as designated by the NBRC/RCB.)

RESTAURANT MANAGEMENT

RMGT 1 Foodservice Training: Server 4.5 Units
This course will provide the student the opportunity to meet the primary role of the server in a foodservice establishment. The responsibility to meet the customer's dining needs is emphasized while maintaining the systems of the restaurant to ensure continued high quality service to all customers and maximize profitability for the operation. These responsibilities are carried out through five functions which are implemented through a number of tasks. This course will not apply to the Associate Degree. 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.) This course may be taken two times.

RMGT 2 Foodservice Training: Prep/Line Cook 4.5 Units
This course will provide the student with the basic and essential training as a prep/line cook. This training includes understanding culinary terminology, proper use of kitchen equipment and hand tools, as well as practical experience. This course will not apply to the Associate Degree. 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.) This course may be taken two times.

RMGT 3 Foodservice Training: Host/Hostess 4.5 Units
This course will provide the student the opportunity to develop the skills for a host/hostess position. This includes the primary role to welcome the customer and begin the service experience in a positive way, while maintaining the systems of the restaurant to ensure continued high quality service to all customers and maximize profitability for the operation. This course will not apply to the Associate Degree. 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.) This course may be taken two times.

RMGT 4 Foodservice Training: Busser 4.5 Units
This course will provide the student with the basic and essential training as a busser to ensure a clean and comfortable dining environment while maintaining the systems of the restaurant to ensure high quality service to all customers and maximize profitability for the operation. This course will not apply to the Associate Degree. 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.) This course may be taken four times.

RMGT 5 Foodservice Training: Cashier 4.5 Units
This course will provide the student with the basic and essential training as a cashier in a foodservice establishment to meet the customer's dining needs, while maintaining the systems of the restaurant to ensure continued high quality service to all customers and maximize profitability for the operation. This course will not apply to the Associate Degree. 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.) This course may be taken four times.

RMGT 6 Foodservice Training: Dishwasher 4.5 Units
This course will provide the student with the basic and essential training as a dishwasher to secure clean and sanitary equipment used in the foodservice establishment while maintaining the systems of the restaurant to ensure high quality service and maximize profitability for the operation This course will not apply to the Associate Degree. 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.) This course may be taken four times.

RMGT 7 Bakery and Pastry Training 4.5 Units
This course will provide the student the opportunity to achieve maximum results in the development of baking skill and knowledge. The student will learn to produce breads of many types as well as a wide variety of desserts and pastries. This course will not apply to the Associate Degree. 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.) This course may be taken four times.

RMGT 8 Catering Training 4.5 Units
This course will provide the student the opportunity to understand the concepts involved in catering for banquets. This will include the objective of meeting the client's needs while maintaining the systems of the establishment to ensure continued high quality service and maximum profitability for the operation. This course will not apply to the Associate Degree. 24-27 hours lecture and 144-162 hours laboratory. (No prerequisite. Pass/No Pass.) This course may be taken four times.

RMGT 9 Concepts in Sanitation 0.5 Units
The basic principles of sanitation and safety are explored for food service employees relative to the safe operation of equipment, as well as the preparation and service of food within any public and private food operation. This course is designed to meet current professional organization certification requirements and prepares the student for the National Food Certification examination (ServSafe). This course will not apply to the Associate Degree. 24-27 hours lecture. (No prerequisite. Credit/No Credit) This course may be taken four times.

RMGT 75 Understanding Fish and Shellfish 2.0 Units
This course will examine the professional techniques of identifying, purchasing, handling, storing and the marketing of fish and shellfish. It also includes identifying, cutting, filleting, and preparing various fish and seafood. 32-36 hours lecture. Offered Summer. (No prerequisite.) This course may be taken four times.

RMGT 76 Understanding Meats and Poultry 2.0 Units
This course will examine the professional techniques of identifying, purchasing, handling, and storing of various meats and poultry. It also includes identifying, cutting, filleting, and preparing various meats and poultry. 32-36 hours lecture. Offered Summer. (No prerequisite.) This course may be taken four times.

RMGT 80 Off-Premise Catering 3.0 Units
This is a comprehensive course covering the fundamentals of catering, sales and marketing as it pertains to catering, and production of operations. Subjects covered include corporate catering, styles of service, finance, completion of necessary forms and paperwork related to catering. 48-54 hours lecture. (No prerequisite) This course may be taken four times.

RMGT 81 Prep/Line Cook 3.0 Units
This course will provide the student with basic and essential training as a prep/line cook. This training includes understanding culinary terminology, proper use of kitchen equipment and hand tools and practical training experience. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite.) Practical training experience is gained through activities performed in the lab.

RMGT 82 Customer Service 3.0 Units
This course will provide the student with the basic and essential training as a server. This training includes understanding customer service, interpersonal communication, identifying customer expectations, as well as payment procedures. Practical training experience is gained through activities performed in the lab. 32-36 hours lecture and 48-54 hours laboratory. (No prerequisite.)

RMGT 83 Kitchen/Dining Room Training 6.0 Units
This course will instruct the student in the different positions in a kitchen and dining room in the foodservice industry. Actual hands-on experience is gained as students learn by working in a foodservice operation. Students will be required to be team leaders for beginning students in the lab. 32-36 hours lecture and 192-216 hours laboratory. (Prerequisites: RMGT 81, RMGT 82, RMGT 86, RMGT 87.)
This course may be taken four times.

RMGT 84 Kitchen/Dining Room Management 6.0 Units
This course will instruct the student to manage kitchen and dining room functions in a foodservice operation. While planning, organizing, coordinating, directing and controlling a foodservice operation, students will supervise teams as part of the training. 32-36 hours lecture and 192-216 hours laboratory. (Prerequisite: RMGT 83.) This course may be taken four times.

RMGT 85 Advanced Restaurant Management 6.0 Units
This course will instruct the student to integrate concepts of management skills learned in previous courses. It introduces a more extensive range of techniques, ingredients, and recipes that all successful managers must understand relating to culinary change and innovation. 32-36 hours lecture and 192-216 hours laboratory. (Prerequisite: RMGT 84.) This course may be taken four times.

RMGT 86 Food Service Sanitation 3.0 Units
This course provides students with the knowledge to assess risks, establish policies and train employees to assure a safe and sanitary food service. 48-54 hours lecture. (No prerequisite.) This course may be taken four times.

RMGT 87 Principles of Professional Cooking 3.0 Units
This course provides an understanding of cooking theory and develops a set of manual skills with the ability to apply these skills to a wide range of cooking styles and products. 48-54 hours lecture. (No prerequisite.) This course may be taken four times.

RMGT 88 Management By Menu 3.0 Units
This course will provide the student with a comprehensive look at the menu and its uses in a foodservice operation. All aspects of menu planning from customer demographics to kitchen capabilities, to cost cards and menu analysis are discussed. 48-54 hours lecture. (No prerequisite.) This course may be taken four times.

RMGT 89 Purchasing for Foodservice Managers 3.0 Units
This course will introduce the student to the purchasing function in the foodservice industry. Course content will include purchasing principles and procedures including ordering, contract administration and product specifications. 48-54 hours lecture. (No prerequisite.) This course may be taken four times.

RMGT 90 Restaurant Marketing 3.0 Units
This course examines the concepts, principles and practices involved with marketing a foodservice operation. Students will gain an understanding of how to merchandise and market an establishment to meet the main objective of an operation. 48-54 hours lecture. (No prerequisite.) This course may be taken four times.

RMGT 91 Controlling Foodservice Costs 3.0 Units
This course will provide the student with the basic cost control standards utilized by foodservice operations to maintain profitability and success. Students will gain an understanding of food costs as well as labor costs and ways to ensure prosperity and increased sales for a foodservice operation. 48-54 hours lecture. (No prerequisite.) This course may be taken four times.

RMGT 92 Legal Aspects of Food Service Management 3.0 Units
This course focuses on the fundamentals of laws relating to the hospitality industry. Basic components of hospitality law regulations and civil rights, foodservice liability, safety, security, contracts and business law topics are examined. 48-54 hours lecture. (No prerequisite.) This course may be taken four times.

RMGT 93 Human Resources Management in the Foodservice Industry 3.0 Units
This course will provide the student the opportunity to explore human resources management and supervision in a foodservice operation. All facets of supervision as it applies to a foodservice operation will be discussed including recruiting, selection, training and development, staffing, benefit programs as well as legal guidelines for all employees. 48-54 hours lecture. (No prerequisite.) This course may be taken four times.

RMGT 94 Hospitality and Restaurant Management 3.0 Units
This course provides the student with a comprehensive focus on what hospitality managers actually do and the most important challenges facing industry leaders today. The topics include leadership and management, planning, organizing, communication and decision making, motivation and control. 48-54 hours lecture. (No prerequisite.)

RMGT 120 Introduction to Nutrition 3.0 Units
This course focuses on the fundamentals of nutrition as related to the restaurant and food service industry. Course content will include the fundamentals of nutrients, understanding nutrition standards and guidelines, and eating in the United States. 48-54 hours lecture. CSU. (No prerequisite). See cross listing for CHEM 120. This course may be taken four times.

RMGT 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

SOCIOLOGY

SOC 50 Sociology of Parenting 3.0 Units
This course provides an introduction to the challenges, risks and changes caused by parenthood, the impact of parenting styles on the development of children, the effect of socio-cultural roles in parenting, and the dynamics of adult/child relationships. It further provides strategies, skills and resources to promote healthy family living. 48-54 hours lecture. (No prerequisite)

SOC 101 Introduction To Sociology 3.0 Units (CAN SOC 2)
This course is a survey of the various characteristics of social life, the process of social interaction and the tools of sociological investigation. Emphasis is on culture, socialization, and basic institutions. 48-54 hours lecture. CSU, UC. Offered Fall, Spring, Summer. (No prerequisite) This course may be taken two times.

SOC 102 American Social Problems 3.0 Units (CAN SOC 4)
This one semester survey course will focus on identification of major sociological theories, concepts, and perspectives in an analytical approach to the study of social problems in contemporary American society. 48-54 hours lecture. CSU, UC. (No prerequisite) This course may be taken two times.

SOC 103 Marriage and Family Life 3.0 Units (CAN H EC 12)
This course is a survey of analytical and theoretical concepts involved in the sociological study of courtship, marriage and family in American society. 48-54 hours lecture. CSU. (No prerequisite) This course may be taken two times.

SOC 107 The Ethnic Experience In American Society 3.0 Units
This is a one semester sociological survey of major racial/ethnic groups in American society. This course will focus on historical experiences and their relationship to contemporary social realities faced by these racial/ethnic groups in American society. It will also investigate their contributions and special experiences as minorities. 48-54 hours lecture. CSU, UC. Offered Spring. (No prerequisite.) This course may be taken two times.

SOC 128 Special Topics
See Special Topics listing (Variable units). CSU, UC.

SOC 129 Independent Study
See Independent Study listing (1-3 units). CSU

SOC 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

SPANISH

SPAN 51 Conversational Spanish II 3.0 Units
This is the second of two courses covering the essentials of Spanish conversation. Intensive oral and aural practice in the language with the objectives of developing fluency and increasing vocabulary through the study of common cross-cultural situations. Introduction to more complex Spanish structures and grammar with emphasis on the spoken language. 48-54 hours lecture. (Prerequisite: SPAN 125. Grade Option.) This course may be taken three times.

SPAN 101 Elementary Spanish 5.0 Units
This course provides an introduction to the Spanish language and the culture of its speakers. Fundamentals of pronunciation, structure and Hispanic culture are studied to develop the ability to use and understand basic spoken and written Spanish. Special emphasis is given to development of oral and aural skills by use of the language lab. 80-90 hours lecture and 16-18 hours laboratory. CSU, UC. (No prerequisite) This course may be taken two times.

SPAN 101A Fundamentals of Spanish 1A 3.0 Units
This course provides an introduction to the Spanish language and culture. Fundamentals of pronunciation, structure and Hispanic culture are studied. Special emphasis is given to development of oral and aural skills. SPAN 101A and SPAN 101B must be taken to get credit for SPAN 101. Upon completion of SPAN 101A and SPAN 101B, CSU will only accept five units for transfer. 48-54 hours lecture and 16-18 hours laboratory. CSU, UC. (No prerequisite) This course may be taken two times.

SPAN 101B Fundamentals of Spanish 1B 3.0 Units
This course provides an introduction to the Spanish language and the culture of its speakers. Fundamentals of pronunciation, structure and Hispanic culture are studied to develop the ability to use and understand basic spoken and written Spanish. Special emphasis is given to development of oral and aural skills by use of the language lab. 48-54 hours lecture and 16-18 hours laboratory. CSU, UC. (Prerequisite: Completion of SPAN 101A with a "C" or better.)

SPAN 102 Elementary Spanish 5.0 Units
This course is a continuation of SPAN 101. Further study of pronunciation, structure and Hispanic culture to develop the ability to use and understand basic spoken and written Spanish. Use of language laboratory is required in order to continue the development of oral and aural skills. 80-90 hours lecture and 16-18 hours laboratory. CSU,UC. (Prerequisite: Completion of SPAN 101 with a minimum grade of 'C' or SPAN 101A and SPAN 101B.) This course may be taken two times.

SPAN 103 Intermediate Spanish 3.0 Units (CAN SPAN 8)
Provides an expanded review of key grammatical concepts and develops vocabulary with emphasis on composition, reading and discussions in Spanish. Students study Hispanic cultures based on cultural and literary materials. 48-54 hours lecture. CSU,UC. (Prerequisite: Completion of SPAN 102 with a minimum grade of 'C'.) This course may be taken two times.

SPAN 104 Intermediate Spanish 3.0 Units (CAN SPAN 10)
A continuation of an expanded review of key grammatical concepts and develops vocabulary with emphasis on composition, reading and discussions in Spanish. Students study Hispanic cultures based on cultural and literary materials. 48-54 hours lecture. CSU,UC. (Prerequisite: Completion of SPAN 103 with a minimum grade of 'C' or three years of high school Spanish) This course may be taken two times.

SPAN 110 Spanish for Spanish Speakers 3.0 Units
Designed to fulfill the particular needs of bilingual students with special emphasis on the grammar of the language and the development of writing, reading and speaking skills. Conducted in Spanish. 48-54 hours lecture. CSU (No prerequisite. Recommended: Ability to speak Spanish.)

SPAN 125 Conversational Spanish I 3.0 Units
This is the first of two courses covering the essentials of Spanish conversation. It is a basic introductory course which emphasizes oral practice, pronunciation and vocabulary development. It is designed to develop a speaking and understanding knowledge of Spanish for use in everyday conversational situations. This course is designed for non-native speakers of the language. 48-54 hours lecture. CSU. (No prerequisite. Pass/No Pass.) This course may be taken two times.

SPAN 128 Special Topics
See Special Topics listing (Variable units). CSU, UC.

SPAN 129 Independent Study
See Independent Study listing (1-3 units).

SPAN 130 Conversational Spanish for Healthcare Professionals I 3.0 Units
This course is directed towards the needs of nursing and healthcare students, as well as other medical and hospital personnel, who must communicate quickly and effectively with Spanish-speaking patients. Conducted in Spanish and English. 48-54 hours lecture. CSU. (No prerequisite)

SPAN 131 Conversational Spanish for Healthcare Professionals II 3.0 Units
This course is a continuation of SPAN 130. It provides intermediate conversational skills for nursing and healthcare students as well as other medical and hospital personnel who must communicate quickly and effectively with Spanish-speaking patients. Conducted in Spanish and English. 48-54 hours lecture. (Prerequisite: SPAN 130 with a grade of "C" or higher or consent of instructor. Grade Option.) This course may be taken three times.

SPAN 135 Spanish for Business 3.0 Units
This course is designed to give students a foundation in Spanish business terminology and prepare them with the knowledge necessary to function in business and professional settings in Spanish speaking countries and where Spanish is used in the U.S. Emphasis will be placed on acquiring basic communication skills and specialized vocabulary for topics related to business and finance. Course is conducted mainly in Spanish. 48-54 hours lecture. CSU. (No prerequisite)

SPECIAL TOPICS

SPECIAL TOPICS 98-128-148 0.5-9.0 Units
These courses are designed to permit investigation in depth of topics not covered by regular catalog offerings. Course content, hours, and unit credit to be determined by the instructor in relation to community/student interest and/or available staff. May be offered as a seminar, lecture, or laboratory class. Individual course descriptions approved by the Curriculum Committee are on file in Office of Instruction. Special Topics 28 and 48 transfer to CSU, UC. (UC maximum credit allowed: 3.3 semester units per term, 6 units total, in any or all appropriate subject areas combined. Granting of credit by a UC campus contingent on evaluation of course outline.) (Prerequisites for Special Topics courses will be in keeping with the California Administrative Code, Title V regulations on open classes, and any prerequisites will be based on terms of performance or specific knowledge necessary to successful performance in the class).

SPEECH COMMUNICATION

See Communication Studies.

THEATRE ARTS

TA 101 Introduction to Theatre
(CAN DRAM 18) 3.0 Units
An introductory course of the history, the performers, the purpose, and the perspective of theatre. Students will be introduced to the basic forms of theatre and disciplines involved in producing a play. Emphasis is on defining and experiencing the role of theatre in society. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite) This course may be taken two times.

TA 102 History of Theatre 3.0 Units
A survey course designed to introduce the student to a history of the world's theatrical experiences from primitive times to the present. An examination of the physical theatre and methods of staging drama from the days of the caveman to theatre of the avant-garde. 48-54 hours lecture. CSU,UC. (No prerequisite) This course may be taken two times.

TA 104 Oral Interpretation of Literature 3.0 Units
A course designed for the student to learn to interpret literature for an audience. Students will learn and be evaluated on: doing performance analyses, developing relevant introductions, communicating a relevant theme, executing proper character placement and focus, using effective vocal skills, using effective physical involvement. Students will demonstrate proficiency in the above through solo and ensemble class presentations. 48-54 hours lecture. CSU, UC. Offered Fall, Spring, Summer. (No prerequisite) This course may be taken two times.

TA 106 Beginning Acting
(CAN DRAM 8) 3.0 Units
This course is designed to exercise the separate parts of the composite art of acting which include thought, emotion, and specific movement and vocal techniques. Emphasis is placed on pantomime and exercises culminating in scene work. The ultimate goal is to develop a firm foundation in basic acting techniques. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite)

TA 107 Intermediate Acting 3.0 Units
This course provides the student an opportunity to enhance acting skills, and to develop and intensify dramatic ability by advancing the understanding of skills presented in Beginning Acting. The student will be introduced to the process of analyzing character through lecture, demonstration, exercises, and the rehearsal and presentation of scenes from published texts. 48-54 hours lecture. CSU, UC. Offered Fall, Spring. (No prerequisite.)

TA 109 Rehearsal and Performance Studio 2.0 Units
This course will provide study and laboratory exploration in all aspects of play production involving the actor in order to develop his/her acting capabilities, skills, and discipline. The audition, preparation, and presentational phases of the acting process will be explored under the supervision and guidance of a faculty director. Productions will be presented for public performance. Enrollment is for the duration of the preparation and presentation phases of production. May be repeated four times for a maximum of twelve units. 16-18 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Fall, Spring. (Prerequisite: Qualify for cast at open auditions. TA 106 recommended) This course may be taken four times.

TA 110 Principles of Design for Theatre 3.0 Units
An introductory course in design principles as applied to the theatre in the areas of lighting, costuming, makeup, and set design. Students will apply concepts of texture, line, space, color and perspective to the various design aspects in theatre through specific 2-D and 3-D exercises. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. (No prerequisite.) This course may be taken two times.

TA 111 Technical Stage Production 3.0 Units
This course is an introduction to the tasks, responsibilities, and skills of stage technicians. Stage managing, construction techniques, stage equipment use, and function of technical stage personnel are introduced to develop the student's design capabilities, skills, and discipline in stage production. Students will serve as technical stage crew members in Theatre Arts Department productions. 16-18 hours lecture and 96-108 hours laboratory. CSU, UC. Offered Fall, Spring. (No prerequisite.) This course may be taken four times.

TA 113 Stage Make-up 3.0 Units
A course designed to introduce the student to the basic techniques and materials of stage make-up. The student will demonstrate understanding through actual make-up, wig, and facial hair applications in the classroom. 16-18 hours lecture and 96-108 hours laboratory. CSU. (No prerequisite) This course may be taken three times.

TA 115 Stagecraft 2.0-4.0 Units
An introductory course on the materials, tools, and procedures of all technical phases of scene production including construction, painting, rigging, placement and manipulation of stage scenery, the organization and management of stage activity, and stagecraft terminology. Students are introduced to the fundamentals of set design, construction, painting, and finishing. Course is designed for the beginner and may be repeated four times for a maximum of 16 units. Eight-nine hours lecture and 48-54 hours laboratory per unit per term. CSU, UC. Offered Fall, Spring. This course may be taken four times.

TA 116 Authors of the Theatre 3.0 Units
A survey of playwrights from the Greeks to the present. The selected plays are read, discussed, and analyzed. It is both AA and BA applicable. 48-54 hours lecture. CSU, UC. Offered Spring. See cross listing for ENGL 116. This course may be taken two times.

TA 117 Technical Theatre I:
Lighting and Sound 3.0 Units
A basic course in theatre lighting and sound systems including electricity, instruments and lamps, light plots, sound recording, microphones, speakers, etc. Emphasis is on hands-on control and adjustment of equipment. 32-36 hours lecture and 48-54 hours laboratory. CSU, UC. Offered Fall. (No prerequisite. TA 115 is recommended to familiarize students with the theatre and its equipment)

TA 120 Costuming for the Theatre 2.0 Units
A basic course in the skills of costuming for the stage and the art of costume design. Repetitions of the course will introduce creation of specialty items, stylistic interpretations, crew management and organization responsibilities.16-18 hours lecture and 48-54 hours laboratory. CSU, UC (No prerequisite) This course may be taken four times.

TA 128 Special Topics
See Special Topics listing (Variable units). CSU, UC.

TA 129 Independent Study
See Independent Study listing (1-3 units). CSU

TA 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU, UC

TA 160 Tap I 1.0 Unit
Development of basic knowledge and skill in tap dancing, commonly used in musical productions and theater. See cross listing for PEDA 160. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

TA 161 Tap II 1.0 Unit
Development of intermediate knowledge of skill in tap dancing, commonly used in musical productions and theater. See cross listing for PEDA 161. 48-54 hours laboratory. CSU, UC (Prerequisite: Student may be required to audition and be approved by instructor for entrance to class. Grade option) This course may be taken four times.

TA 166 Ballet I 1.0 Unit
Technique and style of beginning ballet dance. Emphasis on exploring the movement characteristics of ballet through dancing. See cross listing for PEDA 166. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

TA 167 Ballet II 1.0 Unit
Technique and style of secondary level II ballet dance. Emphasis on exploring the movement characteristics of level II ballet through dancing. See cross listing for PEDA 167. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

TA 170 Jazz Dance I 1.0 Unit
Technique and style of beginning jazz dance. Emphasis on exploring the movement characteristics of jazz through dancing. See cross listing for PEDA 170. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

TA 171 Jazz Dance II 1.0 Unit
Technique and style of level II jazz dance. Emphasis on exploring the movement characteristics of secondary level of jazz through dancing. See cross listing for PEDA 171. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

TA 174 Modern Dance I 1.0 Unit
Technique and style of beginning modern dance. Emphasis on exploring the movement characteristics of level I modern dance through dancing. See cross listing for PEDA 174. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

TA 175 Modern Dance II 1.0 Unit
Technique and style of secondary level II modern dance. Emphasis on exploring the movement characteristics of secondary level II modern dance through dancing. See cross listing for PEDA 175. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

TA 266 Ballet III 1.0 Unit
Technique and style of intermediate level III ballet dance. Emphasis on exploring the movement characteristics of intermediate level III ballet through dancing. See cross listing for PEDA 266. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

TA 267 Ballet IV 1.0 Unit
Technique and style of advanced level IV ballet dance. Emphasis on exploring the movement characteristics of advanced level IV ballet dance through dancing. See cross listing for PEDA 267. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

TA 270 Jazz Dance III 1.0 Unit
Technique and style of intermediate level III jazz dance. Emphasis on exploring the movement characteristics of intermediate level III jazz through dancing. See cross listing for PEDA 270. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

TA 271 Jazz Dance IV 1.0 Unit
Technique and style of level IV jazz dance. Emphasis on exploring the movement characteristics of advanced level IV jazz through dancing. See cross listing for PEDA 271. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

TA 274 Modern Dance III 1.0 Unit
Technique and style of intermediate level III modern dance. Emphasis on exploring the movement characteristics of intermediate level III modern dance through dancing. See cross listing for PEDA 274. 48-54 hours laboratory. CSU, UC (No prerequisite. Grade option) This course may be taken four times.

TA 275 Modern Dance IV 1.0 Unit
Technique and style of advanced level IV modern dance. Emphasis on exploring the movement characteristics of advanced level IV modern dance through dancing. See cross listing for PEDA 275. 48-54 hours laboratory. CSU (No prerequisite. Grade option) This course may be taken four times.

WELDING

WELD 50 Introduction to Welding 2.0 Units
Survey course in arc and oxyacetylene welding which covers safety practices, use of equipment, and oxyacetylene cutting and braze welding. 16-18 hours lecture and 48-54 hours laboratory. (No prerequisite) This course may be taken two times.

WELD 51 Oxyacetylene Welding, Cutting, and Brazing 3.0 Units
Develops entry-level skills for the welder in gas welding, braze welding, and cutting. 32-36 hours lecture and 64-72 hours laboratory. (No prerequisite)

WELD 52 Shielded Metal Arc Welding - Basic 3.5 Units
Develops entry-level shielded metal arc welding (SMAW) skills for the welder. 32-36 hours lecture and 72-81 hours laboratory. (No prerequisite.)

WELD 53 Shielded Metal Arc Welding - Advanced 4.0 Units
Develops advanced shielded metal arc welding skills. Specifically develops skills to produce high quality large multipass fillet welds and single-v-groove welds. 32-36 hours lecture and 96-108 hours laboratory. (No prerequisite)

WELD 54 Preparation for Welder Certification 1.0 Unit
This course prepares the welder to take and pass the Los Angeles Department of Building and Safety written examination required for the L.A. City welding license. In addition, the performance requirements necessary to pass welder qualification tests under different codes are covered. 16-18 hours lecture. (No prerequisite)

WELD 57A Gas Tungsten Arc Welding - Basic 2.0 Units
Develops entry-level gas tungsten arc welding skills; setting up and adjusting equipment, and in position welding on mild steel, stainless steel, and aluminum. 16-18 hours lecture and 48-54 hours laboratory. (No prerequisite)

WELD 57B Gas Tungsten Arc Welding - Advanced 2.0 Units
Develops advanced gas tungsten arc welding skills in out-of-position welding on mild steel, stainless steel, and aluminum. 16-18 hours lecture and 48-54 hours laboratory. (No prerequisite)

WELD 58A Gas Metal Arc Welding - Basic 2.0 Units
Develops entry-level skills in gas metal arc welding. Specifically develops skills on all position groove and fillet welds, set-up, and adjustment of equipment. 16-18 hours lecture and 48-54 hours laboratory. (No prerequisite)

WELD 58B Gas Metal Arc Welding - Advanced 2.0 Units
Develops advanced skills in gas metal arc welding. Specifically develops skills in single-v-groove butt joints in all positions and welder qualification practice.16-18 hours lecture and 48-54 hours laboratory. (No prerequisite)

WELD 59 Welding Symbols and Blueprint Reading 1.0 Unit
Develops a technical understanding of engineering drawings and use of information to communicate instructions from the designer to the welder and fitter to achieve design objectives. 16-18 hours lecture. (No prerequisite)

WELD 60 A/B/C/D Welding Laboratory 1.0-2.0 Units
A laboratory class to develop skills in oxyacetylene welding, arc welding, gas tungsten arc welding, gas metal arc welding, or pipe welding. (No prerequisite)

WELD 98 Special Topics
See Special Topics listing (Variable units).

WELD 99 Independent Study
See Independent Study listing (1-3 units).

WELD 138 Cooperative Education
See Cooperative Education listing (1-8 units). CSU

NON-CREDIT CLASSES

BASIC SKILLS/ EDUCATIONAL UPGRADE

ACOM 12 Adult Literacy 0.00 Units
An open entry/open exit class designed for persons unable to read beyond the 4th grade level. Students will receive individualized instruction.

ACOM 30 Citizenship 0.00 Units
This class is designed to prepare eligible, legal permanent residents for naturalization. The class will focus on practicing listening, speaking, reading, and writing basic English literacy to pass the INS oral interview exam. The class gives a brief overview of American history and U.S. government. Students will practice dictation sentences, the 100 questions and responding correctly to the N400 form.

ACOM 35G Supervised Tutoring 0.00 Units
Open entry/open exit classes designed for students who need individualized instruction.

BSKL 8A CAHSEE Preparation - English 0.00 Units
The course prepares students to take the CAHSEE in English. Students review skills in both reading comprehension and writing skills. 32-36 hours lecture and 24-27 hours laboratory. This course may be taken five times.

BSKL 8B CAHSEE Preparation - Math 0.00 Units
The course prepares students to take the CAHSEE in Math. Students review skills covering arithmetic, basic statistics and elementary algebra. 32-36 hours lecture and 24-27 hours laboratory. This course may be taken five times.

ENGLISH AS A SECOND LANGUAGE NON-CREDIT (AENG)

AENG 10A English for Foreign Born 0.00 Units
This is an adult literacy course for all foreign born who are unable to read or write any language. Emphasis will be on learning to speak, read and write the English language.

AENG 10.1 ESL Low Beginning Speaking and Listening 0.00 Units
This class is for people who do not speak or understand any English. It will focus on oral skills required for managing everyday situations such as apartment problems, transportation, shopping, and medical emergencies. Frequent use of simulation and role play. Strong emphasis on vocabulary development, plus basic grammar.

AENG 10.2 ESL Low Beginning Reading and Writing 0.00 Units
This class is for people who do not read or write any English. It will focus on basic reading and writing skills. Students will learn to read and fill out everyday forms, such as job applications. They will learn the alphabet, basic vocabulary and spelling rules, and also basic grammar.

AENG 10.3 ESL High Beginning Speaking and Listening 0.00 Units

This class continues from AENG 10.1. It is for people who speak and understand a little English. Students will continue to learn new vocabulary and sentence patterns useful in everyday situations.

AENG 10.4 ESL High Beginning Reading and Writing 0.00 Units

This class continues from AENG 10.2. It is for people who read and write a little English. Students will continue to develop reading and writing skills useful for everyday situations, such as reading advertisements and finding and using sources of information.

AENG 10.4A Review Class for ESL Beginners 0.00 Units

This class is for people who completed beginning level English (AENG 10.1-10.4). Students practice reading, writing, listening, and speaking skills that they have already learned. The class focuses on practical, everyday situations such as shopping and work situations.

AENG 10.5 ESL Low Intermediate Speaking and Listening 0.00 Units

This class continues from AENG 10.3. It is for people who already speak and understand English fairly well. In this class students will also learn more sentence structure and grammar useful in a variety of everyday speaking and listening situations. Students will also be introduced to non-verbal communication, as well as certain idiomatic expressions. There will be a strong emphasis on simulation and role play.

AENG 10.6 ESL Low Intermediate Reading and Writing 0.00 Units

This class continues from AENG 10.4. It is for people who already speak and understand English fairly well. Students in this class will continue to develop reading and writing skills in English. They will continue learning grammar and spelling rules, and will write at the sentence level. They will learn to read and respond to simple stories and news articles, and other common forms of written material, such as instructions and simple warranties.

AENG 10.7 ESL High Intermediate Speaking and Listening 0.00 Units

This class is for people who already speak and understand English enough to describe everyday situations, problems, and needs. In this class students will learn more advanced vocabulary, idiomatic expressions, sentence structure, and grammar needed in a variety of specific everyday speaking and listening situations. There will be continued emphasis on simulation and role play.

AENG 10.7A ESL Intermediate Speaking I 0.00 Units

This class is for people who already speak and understand English enough to describe to describe familiar situations, problems, and needs. In this class students will learn more advanced vocabulary, idiomatic expressions, sentence structure, and grammar needed in a variety of communicative situations. Students develop speaking and listening skills needed for success in work and education.

AENG 10.7B ESL Intermediate Speaking II 0.00 Units

This class continues from AENG 10.7A. It focuses on English needed for specific formal situations at school and work such as expressing agreement/disagreement and confronting, and job interviews.

AENG 10.8 Intermediate Writing I 0.00 Units

This class is for people who can already read short texts and write at the paragraph level. They should already know basic rules of grammar and spelling. Students in this class will learn to write short compositions. They will continue to learn more complex grammar. This course is useful in preparation for the GED and for college-level writing courses.

AENG 10.9 Review Class for ESL Intermediates 0.00 Units

This class is for people who completed intermediate-level English (AENG 10.7-10.8). Students practice reading, writing, listening, and speaking skills that they have already learned. The class focuses on practical, everyday situations such as shopping and work situations. There will also be some focus on basic academic skills such as writing descriptive paragraphs.

AENG 10.10 Intermediate Writing II 0.00 Units

This class continues from AENG 10.8. Students write compositions on familiar and unfamiliar topics, read short stories, and learn more advanced grammar. This course is useful in preparation for the GED and for college-level writing courses.

AENG 10.11 Grammar for ESL I 0.00 Units

First in a series of courses designed for ESL students to help them understand and apply rules of English grammar, syntax and punctuation. This course provides practice in such areas as correct use of certain verb tenses, and subject-verb agreement. This course is useful for GED preparation.

AENG 10.12 Grammar for ESL II 0.00 Units

Second in a series of courses designed for ESL students to help them understand and apply rules of English grammar, syntax and punctuation. This course provides practice in such areas as correct use of certain of passive forms, two-word verbs, and modal verbs. Course is useful for GED preparation.

AENG 10.13 Intermediate Reading 0.00 Units

This is an intermediate level reading class. Students develop such reading skills as finding a story's main idea, skimming, scanning, understanding vocabulary in context, and using a dictionary.

AENG 10.13A Low Intermediate Reading and Vocabulary 0.00 Units

A reading course for low intermediate ESL students emphasizing main ideas, outlining, and vocabulary in context. Students should already have basic skills in decoding information and understanding at a literal level. They should be able to read and understand short, authentic texts such as letters and instructions.

AENG 10.13B High Intermediate Reading and Vocabulary 0.00 Units

This class continues from AENG 10.3A. Skills include comparing and contrasting main characters, determining cause and effect, and predicting the story outcome. Successful completion of AENG 10.13A is recommended.

AENG 10.14 High Intermediate Grammar I (Grammar for ESL III) 0.00 Units

This course is a third in a series of four intermediate and advanced courses for non-native speakers of English. It is designed to help them develop grammar skills needed for success in education and everyday life. Students will be able to analyze and correctly use verb tenses and construct tag questions in English. They will be able to generate gerund and infinitive forms correctly. They will develop strategies to apply what they learn in the classroom to everyday situations.

AENG 10.15 High Intermediate Grammar II (Grammar for ESL IV) 0.00 Units

This course is the last in a series of four intermediate and advanced for non-native speakers of English. It is designed to help them develop grammar skills needed for success in education and everyday life. Students will be able to analyze and correctly use passive forms and construct tag questions in English. They will be able to generate gerund and infinitive forms correctly. They will develop strategies to apply what they learn in the classroom to everyday situations.

HOME ECONOMICS FOR THE HOMEMAKER (AHOM)

AHOM 10 Advanced Clothing Construction 0.00 Units
Learn how to handle more advanced fabrics, designer patterns and fitting problems.

AHOM 20 Beginning Clothing Construction 0.00 Units
Designed to teach sewing, equipment use and commercial patterns.

AHOM 30 Home Decorative Art 0.00 Units
Specializing in macrame and speed knitting. Designed for all ages over 18 including older adults.

AHOM 50 Sewing for the Family 0.00 Units
Features pattern fitting, use of sewing machine and technology for family clothing needs.

AHOM 60 Needlecraft/Design 0.00 Units
Specializing in basic stitches of knitting and crocheting. A class for beginners as well as intermediate and advanced students.

AHOM 70 Hand Crafted Items 0.00 Units
Craft and small quilting projects for home and personal use.

AHOM 75 Machine Quilting I 0.00 Units
A beginners class designed to teach strip sewing techniques of making quilts quickly and efficiently by machine.

AHOM 75.1 Machine Quilting II 0.00 Units
A continuation of Machine Quilting I for those who desire more complicated patterns of quilts by machine.

AHOM 82 Interior Design I 0.00 Units
A course in the study of color schemes, design, and other topics to introduce this career as well as to help homemakers beautify their home environment.

AHOM 90 Tailoring 0.00 Units
Modern tailoring techniques are applied to suits and coats for professional fit and appearance. Advanced clothing construction or equivalent recommended.

ADULT PHYSICAL FITNESS (ADPE)

ADPE 60 Physical Fitness 0.00 Units
An exercise course designed to emphasize fitness by offering the student a variety of exercises and aerobic work. Open to both men and women.

ADPE 61 Advanced Physical Fitness 0.00 Units
Advanced techniques of exercise through use of circuits, weights, walking, jogging and controlled exercises. This class is open to both men and women.

ADPE 80 Adult Tennis 0.00 Units
Tennis for adults is fun, offers excellent exercise, and a way to make friends while enjoying tennis. Enhance your tennis skills and quality of life.

PARENTING (APAR)

APAR 10 Foster Parenting 0.00 Units
This course is designed to ensure that children's basic needs are met. It will help parents learn to set and record realistic goals and expectations for their child's developmental progress. Students will learn how to effectively communicate with their children. This course will also cover topics such as boundary and limit setting, appropriate consequences , and ways to improve self-esteem.

APAR 20 Effective Parenting 0.00 Units
Learn how to meet and deal with the challenges today of raising children between the ages of 2 to 12 years old.

APAR 30 Single Parent Leadership Academy 0.00 Units
Designed as a leadership academy for students in the New Horizons Program. These classes will provide information and instruction on leadership training, present and future trends in the work force, non-traditional jobs for women, values and goal setting, debt management, health issues, cultural diversity, and success in the work place.

VOCATIONAL (AVOC)

AVOC 12 Food Service 0.00 Units
This course is designed to provide basic and essential training at the entry level for prep/pantry cook and waitress/waiter. Program will include on-the-job training. Certificates of completion will be issued upon successful completion of course.

AVOC 40 Bus Driver Education 0.00 Units
This course qualifies one to apply for a school bus driver's certificate. There is no behind the wheel training. This class consists of all classroom work.

AVOC 85 Personal Pattern Drafting I 0.00 Units
Students will learn basic fitting techniques by drafting a basic pattern from which other designs can be drafted. Commercial patterns will also be used.