

# SUPPLEMENT TO 2020-2021 CATALOG

## ADDENDUM

### COURSES

#### CREDIT

*(Effective Spring 2021)*

#### **ENGL 150 SUPPORT FOR ENGLISH 001A**

**½ unit**

**Corequisite:** ENGL 001A.

Review of core prerequisite skills competencies, and concepts for college-level composition, with an emphasis on critical thinking skills and reflective and recursive awareness. Topics include learning strategies and reading and writing knowledge delivered through a learning community experience that offers additional support and practice for college-level composition through collaborative, hands-on workshops and activities. **Intended** for students who are concurrently enrolled in ENGL 001A. Total of 36 hours laboratory.

Grade Mode: P

#### NONCREDIT

#### **BLDN 4300 INTRODUCTION TO OCCUPATIONAL SAFETY AND HEALTH FOR THE BUILDING TRADES-BILINGUAL**

Basic construction safety on an apprenticeship level. Training for bilingual workers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces and provides information regarding workers' rights, employer responsibilities, and how to file a complaint in a bilingual environment. Total of 28 hours lecture.

#### **BLDN 4301 INTRODUCTION TO THE BUILDING TRADES AND CONSTRUCTION INDUSTRY-BILINGUAL**

Introduction to the building trades and construction industry, different unions representing crafts, and the wide spectrum of careers. Course integrates academic and technical preparation with an emphasis on career awareness, exploration and skill preparation in a bilingual environment. Total of 48 hours lecture.

#### **BLDN 4302 BASIC CONSTRUCTION MATH FOR THE BUILDING TRADES AND CONSTRUCTION INDUSTRY-BILINGUAL**

Introduction to basic mathematical skills, for bilingual students, required in a variety of construction trades. Emphasis on the basic arithmetic and geometry required to accurately perform routine tasks, estimate simple quantities, and read a standard metric ruler and scale. Taught in a bilingual environment. Total of 48 hours lecture.

#### **BLDN 4303 INTRODUCTION TO PLAN READING FOR THE BUILDING TRADES AND CONSTRUCTION INDUSTRY-BILINGUAL**

Introduction to the various types of building plans used in the building trades and construction industry-for bilingual students. Emphasis on interpreting different types of symbols, abbreviations,

and keynotes found on construction drawings. Taught in a bilingual environment. Total of 48 hours lecture.

### **BLDN 4304 BASIC MATERIAL HANDLING AND RIGGING-BILINGUAL**

Preparation for practice in basic material handling and rigging in the building trades and construction industry for bilingual students, taught in a bilingual environment. Total of 28 hours lecture.

## **PROGRAMS**

### **CREDIT**

#### **LASER TECHNOLOGY - Associate in Science Degree, Certificate of Achievement**

Students completing the program in Laser Technology will learn the scientific principles of optics, fiber-optics, and lasers. Technicians will be instructed on the processes and equipment incorporating these devices in electronic and electro-optics systems. This training will prepare students to become technicians who work on products or devices in manufacturing, communications, defense, homeland security, medical, information technology, energy, environmental monitoring, lighting, displays, and entertainment. This program will prepare students for entry level employment as a photonics or photonics-related technician.

This curriculum will first present a foundation of electronics curriculum core, which is critical to the success of the student in the optics/laser technology portion of the program and in general in the electro-optic industry. Along with gaining a strong electronics background, students will spend more than 40 percent of their time in the lab training on a variety of industrial lasers and optical systems to prepare the student for easy transition into the optical and laser technology work force.

Completion of this course of study will provide students with the skills to work as a technician in the optics and laser support field. Students will have demonstrated knowledge in laser systems, electronics, optics and electro-optics. In particular, graduates will be prepared for a variety of careers in design and manufacturing, materials processing, communications, medical applications, semiconductor fabrication, optical systems, electronics, military applications, sales, and education.

A Certificate of Achievement is awarded upon completion of all required courses with a grade of C or better.

#### Program Outcomes

1. Recognize and describe the purposes of different optical components and systems, including lenses, mirrors, prisms, windows, diffraction gratings, polarizers, waveplates, optical fibers, lasers, LEDs, detectors, cameras, and optoelectronics.
2. Demonstrate effective application of optical devices to generate, manipulate, and/or detect light.
3. Operate safely high-energy, high-voltage laser systems to comply with ANSI and OSHA standards required in industrial laboratory environments.
4. Apply the quality assurance (QA) practices required to inspect optical components to ISO10110 drawing standards and/or military specifications (MIL SPECS), and measure their performance using the industrial tools of an optics fabrication shop.
5. Perform the technical tasks required to characterize of a precision optical system, such as the measurement of a system's transmitted wavefront error or its performance in the creation of high-resolution images.
6. Integrate relevant electronic components into laser optical systems.
7. Communicate technical ideas, procedures, and results with professionals in written, oral or graphic format.

## **Required Units in the Major: 19**

### **Required Courses**

LASR 245 – Quality Assurance of Precision Optics (4)  
LASR 260 – Metrology of Optical Systems (3)  
LASR 230 – Introduction to Optical Devices (3)  
LASR 215 – Fundamentals of Light and Lasers (3)  
ELTN 130 – Introduction to Electronics (3)

### **Required Electives**

ELTN 117 – Introduction to Microcontrollers and Embedded Design (3)  
or ELTN 131 – Analog Devices and Circuits (3)

## **LASER TECHNOLOGY - *Certificate of Achievement***

The Laser Technology Certificate of Achievement will teach students the hands-on skills necessary to thrive in corporate labs that use or manufacture optical systems. These courses have a strong emphasis on laboratory work, and hardware demonstrations. Students will gain the applied skills required to succeed in four-year engineering programs, graduate school, and industries, including medicine, remote sensing, manufacturing, telecommunications, and entertainment.

A Certificate of Achievement is awarded upon completion of all required courses with a grade of C or better.

### **Program Outcomes**

1. Recognize and describe the purposes of different optical components, including lenses, mirrors, prisms, windows, diffraction gratings, lasers, LEDs, detectors, polarizers, optical fibers, and optoelectronics.
2. Demonstrate effective use of optical devices to generate, manipulate, and detect light.
3. Operate safely high-energy, high-voltage laser systems to comply with ANSI and OSHA standards in industrial laboratory environments.
4. Apply the quality assurance (QA) practices required to inspect optical components to ISO10110 drawing standards and military specifications (MIL SPECS), and measure their performance using the industrial tools of an optics fabrication shop.
5. Perform the technical tasks required to characterize of an optical system, such as the measurement of a system's transmitted wavefront or its performance in production of high-resolution images.

## **Requirements for the Certificate of Achievement : 13**

### **Required Courses**

LASR 215 – Fundamentals of Light and Lasers (3)  
LASR 230 – Introduction to Optical Devices (3)  
LASR 245 – Quality Assurance of Precision Optics (4)  
LASR 260 – Metrology of Optical Systems (3)

# ERRATA

## COURSES

### Credit

*(C-ID correction, addition)*

**BIOL 010A CELLULAR BIOLOGY, GENETICS AND EVOLUTION**

*Transfer Credit: CSU; UC. \*C-ID BIOL 190; BIOL 135S*

*(C-ID correction, addition)*

**BIOL 010B THE DIVERSITY OF LIFE ON EARTH: STRUCTURE, FUNCTION AND ECOLOGY**

*Transfer Credit: CSU; UC. \*C-ID BIOL 135S*

*(C-ID addition)*

**CHEM 022 INTRODUCTORY CHEMISTRY**

*Transfer Credit: CSU; UC credit limitations. See counselor. \*C-ID: CHEM 101*

*(C-ID correction)*

**CHDV 013A PRACTICUM IN CHILD DEVELOPMENT-A**

*Transfer Credit: CSU. C-ID: ECE 210 (with CHDV 013AF)*

*(C-ID correction)*

**CHDV 013AF FIELD PRACTICE IN CHILD DEVELOPMENT - A**

*Transfer Credit: CSU. C-ID: ECE 210 (with CHDV 013A)*

*(C-ID addition)*

**DA 100 DENTAL MATERIALS**

*Transfer Credit: \*C-ID: DENA 105X*

*(C-ID addition)*

**DA 124 DENTAL OFFICE ADMINISTRATION**

*Transfer Credit: \*C-ID: DENA 100X*

*(C-ID addition)*

**ENVS 012 PLANT MATERIALS AND USAGE I**

*Transfer Credit: CSU; UC ; C-ID: AG-EH 108L*

*(C-ID correction)*

**ENGL 030B AMERICAN LITERATURE**

*Transfer Credit: CSU; UC. \*C-ID: ENGL 135 (with ENGL 030C)*

*(C-ID correction)*

**ENGL 030C AMERICAN LITERATURE**

*Transfer Credit: CSU; UC. \*C-ID: ENGL 135 (with ENGL 030B)*

*(C-ID addition)*

**GEOG 012 MAP INTERPRETATION AND SPATIAL ANALYSIS**

*Transfer Credit: CSU; UC. \*C-ID: GEOG 150*

*(C-ID addition)*

**HOSP 003 SURVEY OF HOSPITALITY MANAGEMENT AND MANAGER SANITATION AND SAFETY**

*Transfer Credit: CSU. \*C-ID: HOSP 100*

*(C-ID addition)*

**HOSP 021 FOOD, BEVERAGE, AND LABOR COST CONTROL**

*Transfer Credit: CSU. \*C-ID: HOSP 120*

*(C-ID addition)*

**HOSP 030 FOOD AND BEVERAGE MANAGEMENT AND OPERATION I**

*Transfer Credit: CSU. \*C-ID: HOSP 130*

*(C-ID addition)*

**HOSP 050 HOSPITALITY LAW**

*Transfer Credit: CSU. \*C-ID: HOSP 150*

*(C-ID addition)*

**HOSP 060 CULINARY PRODUCTION AND OPERATION MANAGEMENT**

*Transfer Credit: CSU. \*C-ID: HOSP 160*

*(Transferability addition)*

**JOUR 042A BEGINNING PHOTOJOURNALISM**

*Transfer Credit: CSU; UC. \*C-ID: JOUR 160*

*(Transferability addition)*

**JOUR 042B ADVANCED PHOTOJOURNALISM**

*Transfer Credit: CSU; UC*

*(Transferability correction)*

**KINT 180 INTRODUCTION TO TEACHING YOGA**

~~*Transfer Credit: CSU*~~

*(Transferability correction)*

**KINT 181 PHILOSOPHY OF YOGA**

~~*Transfer Credit: CSU*~~

*(C-ID addition)*

**MATH 055H HONORS DIFFERENTIAL EQUATIONS**

*Transfer Credit: CSU; UC. \*C-ID: MATH 240*

*(Transferability addition)*

**PHOT 001 FILM PHOTOGRAPHY I**

*Transfer Credit: CSU; UC*

*(Transferability addition)*

**PHOT 002 DIGITAL PHOTOGRAPHY I**

*Transfer Credit: CSU; UC*

*(Transferability addition)*

**PHOT 003 PRODUCTION I**

*Transfer Credit: CSU; UC*

*(Transferability addition)*  
**PHOT 004 IMAGE CULTURE**  
*Transfer Credit: CSU; UC*

*(Transferability addition)*  
**PHOT 005 VIDEO**  
*Transfer Credit: CSU; UC*

*(Transferability addition)*  
**PHOT 042A BEGINNING PHOTOJOURNALISM**  
*Transfer Credit: CSU; UC*

*(Transferability addition)*  
**PHOT 042B ADVANCED PHOTOJOURNALISM**  
*Transfer Credit: CSU; UC*

*(corrections to course description, advisories)*  
**SLPA 123A COMMUNICATION DISORDERS: ASSESSMENT AND REMEDIATION**  
**3 units**  
**Prerequisite(s):** *All of the following; SLPA 107, SLPA 115, and SLPA 119.*

## **PROGRAMS**

### **Credit**

*(correction – award type)*  
**Programs Table, catalog page 114**  
**AMERICAN SIGN LANGUAGE – Associate in Arts, Certificate of Achievement**

*(correction – Required Core units, BIOL 010B units)*  
**BIOLOGY – Associate in Science Degree for Transfer to CSU**  
The Associate in Science in Biology for Transfer provides student with a foundation in the biological and physical sciences for upper division in course work in the biological sciences or related fields. The Associate in Science in Biology for Transfer is designed to provide students a clear transfer pathway to the CSU within the biology major and the completion of baccalaureate degree, with guaranteed admission to a CSU to a similar major with junior standing, and the ability to complete their remaining requirements within 60 semester or 90 quarter units. The biological sciences have a wide range of career choices available. Earning a degree in Biology is a starting point for careers in the biological sciences, biomedical sciences, biotechnology, environmental biology, agriculture and other related fields.

### **Associate Degree for Transfer Requirements**

- 60 semester or 90 quarter CSU-transferable units.

- the California State University-General Education-Breadth pattern (CSU GE-Breadth); OR the Intersegmental General Education Transfer Curriculum (IGETC) pattern.
- a minimum of 18 semester or 27 quarter units in the major or area of emphasis as determined by the community college district.
- obtainment of a minimum grade point average (GPA) of 2.0.
- earn a grade of C or better in all courses required for the major or area of emphasis or better, or P if the course is graded on a P/NP basis.

### **Program Outcomes**

1. Create scientific presentations and/or papers based on the students' own novel experimental findings and research.
2. Recognize biological problems, propose testable solutions, and implement those tests through diverse methods.
3. Ability to analyze and summarize data and to infer conclusions based on those data.
4. Apply appropriate technological and computational tools to solve biological problems.
5. Diagnose and classify biological diversity, and understand of the functions and interactions of the components of diversity in ecosystems.

### **REQUIRED CORE (10 units)**

BIOL 010A - Cellular Biology and Genetics (5)

BIOL 010B - The Diversity of Life on Earth (5)

### **LIST A: (23 units)**

CHEM 001A - General Chemistry and Chemical Analysis I (5)

and CHEM 001B - General Chemistry and Chemical Analysis II (5)

MATH 005A - Single Variable Calculus (5)

PHYS 002A - General Physics I (4)

and PHYS 002B - General Physics II (4)

Required Subtotal: 33 units

CSU General Education or CSU IGETC Pattern: 31-33

**DEGREE TOTAL: 60 units**

(Required Courses correction – Semester 1 – ART 032A)

### **JEWELRY / METALWORKING – Associate in Science Degree, Certificate of Achievement**

The Jewelry/Metalworking certificate provides technical skills in Jewelry design and fabrication. Skills cover metal sawing, filing, sanding, forming, silver soldering, fusing, cold connections, patina, polishing, casting, basic stone setting, and mixed materials. Concepts cover research, sketches, models, and realization of physical metal forms by hand. Students will develop a portfolio of work that will enable them to apply for jobs in the Jewelry field.

All courses in this certificate require literacy and proficiency in writing and math. Projects require written, oral, and visual presentations as well as the application of basic math and chemistry principles and skills.

A Certificate of Achievement is awarded upon completion of all required courses with a grade of C or better.

### **Program Outcomes**

1. Understand and apply the vocabulary of the jewelry field, tools and materials, design research, and the process of jewelry designs and constructions.
2. Produce original jewelry/objects that demonstrate and understanding of design principles, fabrication, casting, and advanced jewelry/metalworking techniques.
3. Analyze and evaluate the jewelry/objects utilizing the critique process.

### **Requirements for the Certificate of Achievement (21 units):**

#### **Semester I**

ART 036A – Jewelry/Metal Fabrication (3)  
ART 032A – Design - Three Dimensional (3)

#### **Semester II**

ART 036B – Jewelry/Metal Fabrication (3)  
ART 034A – Applied Design I - Materials and Processes (3)

#### **Semester III**

ART 036C – Jewelry Casting (3)  
DT 008A – Introduction to Digital Design and Fabrication (3)

#### **Semester IV**

ART 135 – Portfolio Development of Jewelry and Metal Fabrication (3)

#### **Recommended Electives**

ART 031A – Color and Composition-Two Dimensional Design (3)  
ART 015 – Sketching For Design (3)  
ART 018 – Rendering (3)  
ART 033A – Product Design Application (3)  
ART 004D – History of Modern Art (3)  
PHOT 021 – Introduction to Black and White Photography (3)  
ART 034B – Applied Design II - Materials and Processes (3)  
PHOT 030 – Introduction to Digital Image Editing (3)  
PHOT 031 – Beginning Digital Photography (3)  
PHOT 040 – Fashion Photography (3)  
DT 008B – Intermediate Digital Design and Fabrication (3)  
DT 008C – Advanced Systems Design and Fabrication (4)  
BUS 009 – Introduction to Business (3)

(correction - required core and subtotal units)

#### **LAW, PUBLIC POLICY, AND SOCIETY – Associate in Arts Degree for Transfer to CSU**

An AA-T in Law, Public Policy, and Society is intended as good preparation for students interested in law school upon completion of a bachelor's degree. This interdisciplinary area emphasizes the development of logical, analytical and communication skills; introduces students to the legal field; and prepares students for further study in a variety of majors such as Philosophy, Economics, Political Science, Communication Studies, History, or Social and Behavioral Sciences. Students who opt to pursue this course of study are encouraged to engage in further exploration of one or more specific majors as they select electives for degree completion.

The Associate in Art in Law, Public Policy, and Society for Transfer degree will be awarded upon completion of coursework totaling 60 California State University (CSU) transferable units including



the above major requirements and the Intersegmental General Education Transfer Curriculum (IGETC) or California State University General Education (CSUGE) requirements with a minimum grade point average of 2.0. All courses in the major must be completed with a grade of "C" or better, or P if the course is graded on a P/NP basis. (Students completing this degree are not required to fulfill additional PCC graduation requirements)

**Program Outcomes:**

1. Analyze social science concepts and theories.
2. Evaluate diverse viewpoints related to the human experience.
3. Produce evidence-based arguments.

**REQUIRED CORE (26-27 UNITS)**

- AJ 010 - Introduction to the Administration of Justice (3)
  - or AJ 012 - Concepts of Criminal Law (3)
  - or AJ 016 - Principles and Procedures of the Justice System (3)
  - or BUS 012A - Business Law (3)
- PHIL 003 - Ethics (3)
- SPCH 001 - Fundamentals of Speech (3)
  - or SPCH 001H - Honors Fundamentals of Speech (3)
  - or SPCH 006 - Argumentation and Debate (3)
  - or SPCH 009 - Small Group Communication (3)
  - or SPCH 012 - Argumentation and Critical Thinking (3)
- ENGL 001A - Reading and Composition (4)
  - or ENGL 001AH - Honors Reading and Composition (4)
- SPCH 012 - Argumentation and Critical Thinking (4)
  - or SPCH 002 - Persuasion (3)
  - or ENGL 001C - Intermediate Composition - Critical Thinking and Argument (4)
  - or ENGL 001CH - Honors Intermediate Composition - Critical Thinking and Argument (4)
  - or PHIL 030 - Logic (3)
- STAT 015 - Statistics for Business and Economics (4)
  - or STAT 050 - Elementary Statistics (4)
  - or STAT 050H - Honors Elementary Statistics (4)
  - or STAT 018 - Statistics for Behavioral and Social Sciences (4)
- HIST 007A - United States History to 1876 (3)
  - or HIST 007AH - Honors United States History to 1876 (3)
  - or HIST 007B - United States History from 1876 (3)
  - or HIST 007BH - Honors United States History from 1876 (3)
- POLS 001 - Introduction to American Government and Politics (3)

**LIST A: Select 2 courses from below from two of the areas listed below not already used (6 units):**

- AJ 010 - Introduction to the Administration of Justice (3)
  - or AJ 012 - Concepts of Criminal Law (3)
  - or AJ 014 - Legal Aspects of Evidence (3)
  - or AJ 016 - Principles and Procedures of the Justice System (3)
  - or AJ 018 - Community Relations (3)
  - or SOC 015 - Crime, Delinquency and Society (3)
- BUS 012A - Business Law (3)
- ECON 001B - Principles of Economics (3)
  - or ECON 001A - Principles of Economics (3)
  - or ECON 001BH - Honors Principles of Microeconomics (3)

or ECON 001AH - Honors Principles of Macroeconomics (3)  
POLS 022 - Introduction to Political Theory (3)  
or POLS 002 - Comparative Government and Politics (3)  
or POLS 006 - The U.S. and World Politics (3)  
or POLS 007 - Principles of Political Science (3)  
GLBL 001 - Introduction to Global Studies (3)  
or GLBL 002 - Issues in Global Studies (3)  
or JOUR 009 - Public Relations and Organizational Communication (3)  
or SOC 002 - Contemporary Social Problems (3)  
or HED 051 - Health and Social Justice (3)  
or HED 052 - Drugs, Health, and Society (3)  
ANTH 002 - Cultural Anthropology (3)  
or ANTH 002H - Honors Cultural Anthropology (3)  
or GEOG 002 - Cultural Geography (3)  
or SOC 014 - Introduction to Ethnic Studies (3)  
or SOC 030 - Introduction to Gender (3)  
or LING 012/ENGL 012 - Intercultural Communication (3)

Required Subtotal: 32-33

CSU General Education or IGETC Pattern: 37-39

**DEGREE TOTAL: 60**

(Corrections - award type, addition of MATH 008)

### **NATURAL SCIENCES – Associate in Science Degree**

This area of emphasis offers a broad and interdisciplinary foundation in the sciences necessary for continued training at the upper division (or advanced) level for many bachelor degree programs in the natural sciences including biology, chemistry, environmental science, geology, mathematics, plant science, physics, and many others. It is a starting point for students who are preparing for careers in, health sciences, medicine, business, agriculture, education, and government, where scientific and technical skills are in great demand.

PLEASE NOTE: The courses that universities and colleges require for transfer vary. When selecting courses for transfer purposes, students should consult with Counseling Services to determine the particular transfer requirements of specific transfer institutions.

### **Program Outcomes**

1. Successfully apply the scientific method to solve problems.
2. Collect and analyze data related to the natural world.
3. Complete preparation for advanced study in one focal discipline within the Natural Sciences Division.

### **Requirements for the Area of Emphasis (18 units minimum)**

- Courses must be completed with a grade of C or better. All courses must be numbered 001-099.
- Students must complete 18 units with at least 3 units in three of the following five categories listed below:

#### **Biological Sciences:**

ANTH 001- Physical Anthropology (3)

ANTH 001L - Laboratory in Physical Anthropology (1)  
ANTH 001H - Honors Physical Anthropology (3)  
ANAT 025 - General Human Anatomy  
BIOL 002 - Animal Biology (4)  
BIOL 003 - Topics in Human Biology (4)  
BIOL 004 - Plant Biology (4)  
BIOL 005A - Topics in Applied Botany/Urban Tree Identification & Biology (1)  
BIOL 005B - Topics in Applied Botany: Botany for School Gardens (1)  
BIOL 005C - Topics in Applied Biology - Medicinal Plants (1)  
BIOL 010A - Cellular Biology, Genetics and Evolution (5)  
BIOL 010B - The Diversity of Life on Earth: Structure, Function and Ecology (5)  
BIOL 010C - Genetics (3)  
BIOL 011 - General Biology (4)  
BIOL 011H - Honors General Biology (4)  
BIOL 014 - Field Biology (4)  
BIOL 016 - Marine Biology (4)  
BIOL 025 - Field Studies (1)  
BIOL 026 - Biology Field Studies (2)  
BIOL 028 - Introduction to Bioinformatics (3)  
BIOL 038 - Cell and Molecular Biology (4)  
BIOL 039 - Modern Human Genetics (4)  
MICR 002 - Microbiology (4)  
NUTR 011 - Human Nutrition (3)  
PYSO 001 - Human Physiology (4)  
PSYC 002 - Elementary Physiological Psychology (3)

**Chemistry:**

CHEM 001A - General Chemistry and Chemical Analysis (5)  
CHEM 001B - General Chemistry and Chemical Analysis (5)  
CHEM 002A - Chemistry – General, Organic, and Biochemistry (4)  
CHEM 002B - Chemistry – General, Organic, and Biochemistry (4)  
CHEM 008A - Organic Chemistry (5)  
CHEM 008B - Organic Chemistry (5)  
CHEM 022 - Introductory Chemistry (4)

**Environmental Studies:**

ENVS 001 - Introduction to Environmental Science (4)  
ENVS 002 - Human Impact on the Environment (3)  
ENVS 003 - Chemistry and the Environment (3)  
ENVS 010 - Environmental Horticulture (3)  
ENVS 011 - Soil Science (3)  
ENVS 012 - Plant Materials and Usage I (3)  
ENVS 030 - Environmental Field Investigations (2)  
ENVS 040 - Environmental Field Laboratory (1)

**Geosciences:**

GEOG 001 - Physical Geography (3)  
GEOG 001L - Physical Geography Laboratory (1)  
GEOG 004 - Weather and Climate (3)  
GEOG 011 - Introduction to Geographic Information Systems and Techniques with Lab (3)  
GEOG 012 - Map Interpretation and Spatial Analysis (3)

GEOG 013 - Data Acquisition and Management (3)  
GEOL 001 - Physical Geology (4)  
GEOL 001F - Physical Geology Field Studies (1)  
GEOL 002 - Historical Geology (4)  
GEOL 002F - Historical Geology Field Studies (1)  
GEOL 003 - Earth and Space Science (4)  
GEOL 003F - Earth and Space Science Field Laboratory (1)  
GEOL 004 - Geology of California (3)  
GEOL 006 - Mineralogy (4)  
GEOL 012 - Physical Oceanography (3)  
GEOL 012F - Physical Oceanography Field Studies (1)  
GEOL 012L - Physical Oceanography Laboratory (1)  
GEOL 022 - The Age of Dinosaurs (3)  
GEOL 023 - Natural Disasters (3)  
GEOL 030A – Channel Islands–Coastal California (2)  
GEOL 030C – Coast Ranges–San Andreas Fault (2)  
GEOL 030D – Sierra Nevada (2)  
GEOL 030E – Owens Valley–Death Valley (2)  
GEOL 030F – Geological Field Investigation–Rocky Mountains (2)  
GEOL 030G – Klamath Mountains–Northern California (2)  
GEOL 030H – International Study Areas (2)  
GEOL 030I – Problems in Structural Geology (2)  
GEOL 030J – Colorado Plateau (2)  
GEOL 030K – Problems in Regional Stratigraphy (2)  
GEOL 030L – Applications of Global Positional System (2)  
GEOL 030M – Geological Field Investigation–Pacific Rim /Pacific Islands (2)  
GEOL 040 Geological Field Laboratory (1)

**Mathematics and Statistics:**

MATH 003 - College Algebra (4)  
MATH 005A - Single Variable Calculus I (5)  
MATH 005AH - Honors Single Variable Calculus (5)  
MATH 005B - Single Variable Calculus II (5)  
MATH 005BH - Honors Single Variable Calculus II (5)  
MATH 005C - Multivariable Calculus (5)  
MATH 005CH - Honors Multivariable Calculus (5)  
MATH 007A - Mathematical Analysis 1 (4)  
MATH 007B - Mathematical Analysis 2 (4)  
MATH 008 - Precalculus Trigonometry (4)  
MATH 009 - Precalculus Mathematics (5)  
MATH 010 - Linear Algebra and Applications (5)  
MATH 022 - Discrete Mathematics (3)  
MATH 055 - Differential Equations (5)  
STAT 050 - Elementary Statistics (4)  
STAT 050H - Honors Elementary Statistics (4)

**Physics & Physical Sciences:**

ASTR 001 - Elementary Astronomy (4)  
ASTR 012 - Descriptive Introduction to Astronomy (3)  
PHSC 003 - Physical Sciences (3)  
PHSC 003L - Laboratory for Physical Sciences (1)

PHYS 001A - General Physics (5)  
PHYS 001B - General Physics (5)  
PHYS 001C - General Physics (5)  
PHYS 001D - General Physics (5)  
PHYS 002A - General Physics (4)  
PHYS 002B - General Physics (4)  
PHYS 010 - Descriptive Introduction to Physics (3)  
PHYS 010L - Descriptive Physics in the Laboratory (1)  
PHYS 031A - General Physics (4)  
PHYS 031B - General Physics (4)