Sustainability-Focused and Sustainability-Inclusive Course Offerings

Fall 2016 through Spring 2019

18-19 Catalog descriptions, with OIE 2016-current class offerings, and Faculty Survey

Courses numbered up through 199 are undergraduate
Courses numbered 200 and above are graduate
Italicized courses have sustainability related content, but not necessarily sustainability focused

ACCT 4B. Managerial Accounting Principles and Systems Not open to freshmen. Prerequisite: grade of C or better in ACCT 4A. Basic coverage of managerial control and decision support tools, job order costing, activity based costing, standard costing, budgeting, relevant costing, and quality control. Units: 3 Typically Offered: Fall, Spring

ACCT 146. Accounting Information Systems and Controls Prerequisites: grades of C or better in ACCT 4A and ACCT 4B. Design of systems for the collection, organization, and reporting of accounting information. Theory and practice of flowcharting, evaluation of internal accounting controls in computer systems environments, and interrelationships of people, procedures, and equipment. Units: 4 Typically Offered: Fall, Spring

ACCT 148. Accounting for Governmental and Nonprofit Organizations Prerequisites: grades of C or better in ACCT 120A and ACCT 132. Concepts, principles, and problems of accounting for governmental and nonprofit organizations. Budgeting, fund accounting, cost/benefit analysis, cash planning and control, and independent auditing are introduced in the context of making decisions in governmental and nonprofit organizations. Units: 4 Typically Offered: Fall

ACCT 169. Forensic Accounting Prerequisites: grades of C or better in ACCT 120A and ACCT 132. Basic forensic and investigative accounting. Case studies from financial accounting, cost accounting, federal income taxes, auditing, business law, and other business disciplines will be used to help students analyze facts and provide usable accounting and financial information. (Formerly ACCT 189T) Units: 4 Typically Offered: Fall, Spring

ACCT 187. Accounting Ethics and Professional Responsibilities Prerequisites: ACCT 120A, ACCT 120B and ACCT 132 with a grade of "C" or better.This course examines the Accountants' ethics and professional responsibilities that are integrated in the various roles an accountant undertakes in the recording and reporting of a business processes and financial information. Units: 3 Typically Offered: Fall, Spring

AGBS 5. Survey of Agricultural Economics and Agribusiness Orientation to agricultural sector, institutions, and historic farm problems. Basic economic concepts and business principles applied to management, marketing, finance, andtrade. Consumer demand and producer supply functions.Competitive market price determination. Overview of resource, environmental, consumer, and farming issues and government policies. Units: 3 Course Typically Offered: Fall

AGBS 150. Agricultural and Food PolicyPrerequisite: AGBS 1 (or ECON 40); AGBS 2 or ECON50. Analysis of public policies affecting the economics of U.S. and California agriculture; government programs influencing agricultural production, commodity distribution,market prices, farm income;

environmental and natural resource issues; nutrition, food safety and biotechnology concerns; food industry regulation; international agricultural trade.Units: 3 Course Typically Offered: Fall, Spring

AGBS 155. Environmental and Natural Resource Policy Economic Analysis of public policies governing land use,water management, energy generation, mineral exploitation and forest administration; review of population pressures and resource conservation; examination of externalities,property rights issues, resource use planning, agricultural zoning, environmental regulations, and reclamation law. GE Integration I.D.Units: 3 Course Typically Offered: Fall, Spring GE Area: ID

AIS 50. Contemporary Life of the American Indian Prerequisite: GE Foundation A2 for students in English college-readiness Category III and IV. Current problems of American Indians and Arctic Natives resulting from culture conflict, acculturation, minority status, and governmental policy. G.E. Breadth D3 Units: 3 GE Area: D3

AIS 90. Intro to American Indian Religion Introduction to the concepts of religion and belief systems inAmerican Indian societies. Examines American Indian religion as an integration of culture, geography, economic activity,social obligations and environmental responsibilities. Explores conflicts and adaptations with non-Native religious systems. Units: 3

AIS 101. American Indian Law Concepts of laws on Indian reservations, termination, litigation and complaints, strengthening tribal governments. Law related to Indian land and resources. Units: 3

AIS 103. Indians of California Prerequisite: G.E. Foundation and Breadth Area D. Survey course on the ancient cultures of California, historical development of California Indian cultures according to regional resources, conflict between the California Indian people and various colonial forces, arts and culture of California Indian people, and contemporary issues of California Indians. Units: 3 GE Area: ID

ANTH 105W. Applied Anthropology Prerequisite: G.E Foundation and Breadth Area D, satisfactory completion (C or better) of ENGL 5B or ENGL 10 graduation requirement, to be taken no sooner than the term in which 60units are completed. Examination and assessment of the use of anthropological data and concepts to address contemporary issues in education, health care, law, environmental planning,and social services. Students work on applied problems and write observations, plans, reports, and research documents geared to the needs of professionals, service providers,and particularly planners in modern institutional contexts.Multicultural/International M/I.Units: 3 Course Typically Offered: Fall, Spring, Summer

ANTH 128. Environmental Anthropology Examines the interactions between environment and human culture. Specific topics include theoretical and empirical trends in environmental anthropology, materialist and cognitive approaches to human-environment interactions,human culture in ecosystem perspective, religion and ecology,and contemporary environmental movements.Units: 3 Course Typically Offered: Fall

ART 109T. Digital Concept and Character Development A topics course teaching fundamental digital art skills relevant to the effective creation of characters and environments in both vector and bitmap programs. The course is divided into thirds: exercises and techniques that develop confidence and speed in the beginning, building upon fundamental techniques by developing character and environmental designs in several styles, and refining skills and encouraging the development of the student's own style at the end. Art techniques include realistic lighting, atmospheric perspective, anatomy, facial expressions, costuming, and designing props. (Offered Fall 2019) Units: 3

ASCI 21. Beef Cattle Production Prerequisite: ASCI 1 or concurrently. Overview of world and United States beef production. Evaluation of the structure of the beef industry (consumer, packer, retailer, feedlot, seedstock, commercial cow-calf, stocker). Discussion of genetics, nutrition, reproduction , and meat science as applied to beef cattle. (2 lecture, 3 lab hours) Units: 3 Typically Offered: Fall, Spring

ASCI 31. Swine Production Prerequisite: ASCI 1 or concurrently. Management principles and practices of purebred and commercial pork production. Nutrition, reproduction, environ mental management, health, marketing, selection, and records are studied. (2 lecture, 3 lab hours; field trips) Units: 3 Typically Offered: Fall

ASCI 61. Dairy Cattle Production Prerequisite: ASCI 1 or concurrently. Principles and practices of milking, feeding, breeding, evaluating, housing, health, behavior, and management of dairy cattle. (2 lecture, 3 lab hours) Units: 3 Typically Offered: Spring

ASCI 91. Poultry Production Prerequisite: ASCI 1 or may be taken concurrently.Management principles and practices of commercial poultry production. Nutrition, reproduction, environmental management, health, and processing of broilers and layers. (2 lecture, 3 lab hours) Units: 3 Course Typically Offered: Fall

ASCI 101. Environmental Management of Farm AnimalsPrerequisite: ASCI 1 or concurrently. Basic principles of environmental management as applied to domestic farm animals. Special emphasis given to animal behavior, animal welfare, and animal performance. The optimal animal environment will be studied in detail. Units: 3

ASCI 121. Advanced Beef Management Prerequisite: ASCI 21. Prevailing and alternative management systems and techniques of beef production in the United States and California including economic analysis. (2 lecture, 3 lab hours) Units: 3 Typically Offered: Spring

ASCI 131. Advanced Swine Management Prerequisite: ASCI 31. A comprehensive study of the swine industry. Laboratory exercises designed to improve the management decision ability of students. (2 lecture, 3 lab hours; field trips) Units: 3 Typically Offered: Spring

ASCI 146. Physiology of Lactation Prerequisites: ASCI 61, CHEM 3A. Fundamentals of anatomy, physiology, and endocrinology of milk synthesis and secretion;milking machine systems and management; pathological and environmental factors affecting lactation. Units: 3 Course Typically Offered: Spring

ASCI 161. Advanced Dairy Farm Management Prerequisite: ASCI 61. A comprehensive study of daily industry management strategies and practices. Exercises involve recognition of problems and recommendation of solutions associated with managing commercial dairy operations. (2 lecture, 3 lab hours; field trips) Units: 3 Typically Offered: Fall

ASCI 191. Advanced Poultry ProductionPrerequisite: ASCI 91. Advanced management principles and practices of commercial poultry production. Advanced knowledge concerning anatomy, physiology, reproduction,nutrition, environmental management, health, and processing of broilers will be sought. (2 lecture, 3 lab hours) Units: 3 Course Typically Offered: Fall - odd

BA 104. Global Business Prerequisites: G.E. Foundation and Breadth Area D.Studies globalization of business; role of trade, investment liberalization, and economic integration; technology; multinational enterprises. Examines influence of cultural,social, economic, political, geographic, philosophical,and environmental forces on individual and institutional competitiveness at regional, national and global levels; appropriate strategies. Multicultural/International M/I. *Units: 3 Course Typically Offered: Fall, Spring

BIOL 1B/1BL. Introductory Biology Prerequisite: BIOL 1A passed with C or better . First-time enrollees must take BIOL 1BL concurrently. Course two of a two-semester sequence required of all biology majors. Continuation of thematic introduction to the unifying concepts of life science: classification and diversity of life; survey of the living organisms; physiology; ecology and environmental biology. (3 lecture hours) (Formerly BIOSC 1B). Units: 3 Course Typically Offered: Fall, Spring

BIOL 101. General EcologyPrerequisites: BIOL 1A and BIOL 1B/1BL; PSYCH 42or MATH 101, or EES 178 (EES majors only). MATH 70 or equivalent recommended. Required of all biology majors. The structure, function, organization, and regulation of populations, communities, and ecosystems. The role of evolution in environmental relationships. (3 lecture, 3 lab hours)* (Formerly BIOSC 130) (Course fee, $15) Units: 4 Course Typically Offered: Fall, Spring

BIOL 110. Human Ecology The study of the relationships between humans and their environment, both natural and man-made; emphasis on scientific understanding of root causes of current environmental problems. (Formerly BIOL 105) Units: 3

BIOL 162L. Comparative Animal Physiology Lab Prerequisite: BIOL 102 and BIOL 103. BIOL 162 is a pre- or co-requisite. Comparative experimental approach to understanding how animals adapt to different environmental challenges and investigations into physiological processes. (3lab hours) (Course fee, $20) (Formerly PHYAN 151 Lab component) Units: 1Course Typically Offered: Fall, Spring

BIOL 175. Case Studies in EcologyPrerequisites: BIOL 101. Discussion-based course focusing on analysis and problem solving in ecology. Cases are grounded in basic ecological and environmental science, but include relevance and application to sociological, economic, and political considerations. (2 lecture hours, 1 TBA) (Formerly ECOL 140) Units: 3

CE 191T. Civil Engineering in Site Plan Development This course will engage students in the process of designing sites for development. In this process students will engage with the entitlement process for site plan development, the research of infrastructure for site plan development, and the design of site plans, including parking, building layout, access requirements, and sustainability. AutoCad Civil 3D will be used extensively in this course. Students interested in learning the process and practicalities of site plan design should take this course. This class will include the design of a site plan as a class project. (Offered Fall 2019) Units: 3, Repeatable up to 6 units

CE 125. Geotechnical Engineering Design Prerequisites: CE 123, CE 123L. Theory and design of earth retaining walls, filtration and drawing systems, excavation and supporting systems, soil improvement and ground modification, geosynthetics design and applications, introduction to geoenvironmental engineering.

CE 142. Environmental Engineering Prerequisites: CHEM 1A or CHEM 3A or concurrently; CE 128 or concurrently. Introduction to the principles and practices of environmental quality management, including

water and air quality, waste management, and the environmental effects of engineered systems.Units: 3 Course Typically Offered: Fall, Spring

CE 142L. Environmental Quality Laboratory Prerequisite: CE 142 or concurrently. Study and analysis of physical, chemical, and biological characteristics of air, water,and solid wastes. (Field trips required) Units: 1 Course Typically Offered: Fall, Spring

CE 206. Engineering Environmental Impact Evaluation of environmental impacts due to engineering projects. The incorporation of environmental considerations into engineering design. Alternative solutions to engineering problems. Case histories of selected engineering projects. Units: 3

CE 245. Geoenvironmental Engineering Prerequisites: BIOL 10, CHEM 3A, CE 123, CE 128,CE 129, CE 142, or upon approval from the instructor.Topics covered in the course include basic soil physics,principles of groundwater flow, mass transport and transfer in soils, non-aqueous phase liquid in soils, geosynthetics,basic soil microbiology and biochemistry, environmental regulations, solid waste landfills, site contamination and treatment techniques.Units: 3

CE 247. Solid Wastes Engineering Planning and design of waste collection and disposal systems. Waste segregation and energy impact related to recovery and recycling practices. Environmental impact and institutional issues related to solid and hazardous waste systems. Units: 3

CFS 31. Introduction to Family Science Overview of the scientific study of family relationships. Topics include historical analysis, family theory and research methods, demographic trends, mate selection, sexuality, marriage, divorce, parenting, family violence, developmental aspects of family, and the impact of culture, class, and gender. GE Breadth D3. Units: 3 Typically Offered: Spring GE Area: D3

CFS 38. Life Span Development A balanced study of basic theories, research, applications, and principles of physical, cognitive, and psychosocial development from conception to death, presented in an integrated manner in the context of the family in a diverse society. Includes behavior, sexuality, nutrition, health, stress environmental relationships, and implications of death and dying. G. E. Breadth E1. Units: 3 Course Typically Offered: Fall, Spring GE Area: E1

CFS 134. Culture and Diversity Prerequisites: CFS 31 and (CFS 39 or PSYCH 101) and (CFS 153 or PSYCH 153). Open only to: Pre-CFS, majors and minors in Child and Family Science, and Liberal Studies majors. Survey of the history and circumstances of children and families in various groups based on race, ethnicity, culture, gender, sexual orientation, and religion; research on how children develop identity and attitudes about diversity; and cultural competence. Units: 3 Typically Offered: Fall, Spring

CHEM 10. Chemistry and Society Not open to students with credit in college chemistry; for nonscience majors. Prerequisite: completion of the General Education B4 area requirement. The significance of chemical principles in contemporary society; benefits and hazards relative to areas such as energy, health, diet, environment, and agriculture. G.E. B1. (3 Lecture, 2 lab hours) (Course fee, $7)* (Formerly CHEM1) Units: 4 Course Typically Offered: Fall, SpringGE Area: B1

CHEM 106S. Instrumental Analysis in Industrial Settings Prerequisites: CHEM 102 (with a grade of C or better), CHEM 108 or CHEM 110A, completion of the upper-division writing requirement, or permission of instructor. Principles and methods of analytical measurements using instrumental techniques. Meets off

campus and focuses on the use of techniques within industry settings for environmental monitoring in the Central Valley. (2 lecture, 6 lab hours).$25.00 course fee Units: 4

CHEM 125. Applied Analytical TechniquesPrerequisites: CHEM 8 or CHEM 128A and CHEM 102 or CHEM 105. Analytical techniques and their applications in clinical, environmental, agricultural and forensic analytical and bioscience laboratories. (2 lecture, 3 lab hours) Units: 3

CI 152. Adolescent Learning and Development Prerequisites: Admission to Single Subject Credential Program. Psychological theories of teaching and learning, growth and development of adolescents, motivation, classroom management, and student performance and assessment issues. Units: 3 Course Typically Offered: Fall, Spring, Summer

CI 162. Understanding Children, Learning, and Development in TK-8 Classrooms This course focuses on the principles of educational psychology and their relations with recent research and school practice. It provides diverse theoretical perspectives on learning and development in children and adolescents, as well as their implementation and application in school settings. (Formerly CI 180T) Units: 3 Course Typically Offered: Fall, Spring

CI 163. Curriculum and Pedagogy: Designing for Successful Teaching TK-8 Prerequisite: Admission to the Multiple Subject Credential program. This course examines the design and development of interdisciplinary and integrated curriculum in K-8 classrooms. The course content includes background information on curriculum theories and multiple pedagogical approaches with a focus on the integration of curriculum and instruction. (Formerly CI 180T) Units: 3 Course Typically Offered: Fall, Spring

CI 240. Social Justice and the Multicultural Classroom Cultural and political contexts of schooling; foundations of education. Enhancing educational equity by providing multicultural curriculum, culturally responsive pedagogy and culturally appropriate assessment. They conduct web-supported classroom research. Use web-based collaborative tools with teachers, families of pupils, and community members. Units: 3

CI 285. Seminar in Advanced Educational Psychology Prerequisites: Minimum 3 units from the following: CI 152, CI 171, COUN 174, or PSYCH 101, or permission of instructor. Seminar on the psychological foundations of education; nature and characteristics of development, learning processes, and forces which affect educational growth. (Formerly ERA 285) Units: 3

CM 1. Construction Management Orientation An overview of construction management education and profession. Introduction to the construction industry,career opportunities, leadership/personality assessment,sustainability, ethics, safety, community service, and university experience. (1 lecture, 2 lab hours) Units: 2 Course Typically Offered: Fall, Spring

CM 5. Analysis of Construction Materials Analyzing quantities of basic construction materials: concrete, masonry, metals, woods, thermal materials, finishes, equipment, and specialties. (1 lecture, 2 lab hours; field trips) Units: 2 Typically Offered: Fall, Spring

CM 7S. Construction Materials & Basic Building Systems Prerequisite or corequisite: CM 15 or OSHA 30 construction safety certification. Introduction to basic construction materials and exploration of theoretic principles relating to the various building systems. Course work requires 20 hours of service learning in

construction. Lectures, lab, field trips, and guest speakers. (2 Lec, 3 Lab hours) Units: 3 Typically Offered: Fall, Spring

CM 15. Construction Management Software and Safety Introduction to construction industry software and construction safety standards. Basic instruction in estimating, scheduling, design, and project management software. Includes 30 hours of OSHA related construction safety regulations and practices. (4 lab hours) Units: 2 Typically Offered: Fall, Spring

CM 18. Construction Graphics Co-requisite: CM 7S. Introduction to fundamentals and techniques to communicate graphically in the construction industry. Plan reading, architectural drawing, sketching, drafting methods, computer aided design, and building information modeling. Survey of architectural form and function. Study includes application of building codes and regulations. (2 Lec, 3 Lab hours) (formerly CM 4) Units: 3 Typically Offered: Fall, Spring

CM 20. Construction Documents Prerequisite CM 18; CM 5 or Math 75 (may be taken concurrently). Methods for developing and applying construction contracts and specifications, including bidding requirements, bonds and insurance, certificates, agenda, change orders, general and supplementary conditions, and CSI specifications; Performing basic quantity take offs for a given set of construction documents. (2 lecture, 2 lab hours) Units: 3

CM 31. Architectural Graphics Prerequisite: CM 5. Introduction to basic techniques and media used in architectural graphic communication including: perspective techniques, sciagraphy, models, and photography; emphasis on various ways of making drawn representations of architectural design proposals. (6 lab hours) Units: 3 Typically Offered: Fall

CM 32. Architectural Design
Introduction to architectural design theory; analysis of architectural design problems, assessment of human needs, establishment of architectural design criteria and development of architectural design concept. (6 lab hours) Units: 3 Typically Offered: Fall

CM 50. Basic Building Systems Prerequisite: CM 5, CM 42. Exploration of theoretic principles relating to the various building systems. (2 lecture, 2 lab hours; field trips) Units: 3 Typically Offered: Fall, Spring

CM 105. Construction Structures Prerequisites: CM 20; PHYS 2A or PHYS 4A; MATH 75; all with "C" or better. Properties, strength, and functional applications of basic construction materials: woods, metals, and concrete. Recent developments in new materials and applications. (2 lecture, 2 lab hours; field trips) Units: 3 Typically Offered: Fall, Spring

CM 107/107L. Advanced Construction Structures Prerequisite: CE 20 or CM 105. Analysis of construction materials in its application to different structural systems. (2 lecture, 2 lab hours) Units: 3 Typically Offered: Fall, Spring

CM 110. Estimating and Bidding Prerequisite: CM 20. Basic method used to evaluate, fix cost, calculate worth, make accurate quantity take-offs and labor time estimates; preparing bids for prospective buyers. (2 lecture, 2 lab hours) Units: 3 Typically Offered: Fall, Spring

CM 116. Construction Scheduling Corequisite or Prerequisite: CM 110. Critical path method; planning, scheduling, and control of construction projects including logic, time assignment and computation,

analysis, replanning, diagramming practices, monitoring and updating, computer utilization; role of management. (2 lecture, 2 lab hours) Units: 3 Typically Offered: Fall, Spring

CM 122. Construction Laws Prerequisite: CM 20. Orientation to the rules and regulations governing construction industry practices and activities including contractors license law, state lien laws, health and safety regulations, personnel relations and supervision, workers compensation, employment insurance and taxes. Units: 3

CM 127. Construction Soils and Foundation Not open to civil engineering majors. Prerequisite: CM 107. Physical and mechanical properties of soil, construction applications of soils engineering design, field control during construction, field problems and remedial measures, and case histories. Units: 3

CM 131. Advanced Architectural Graphics Prerequisite: CM 7S and upper division standing. Architectural graphic techniques as tools of three dimensional analysis and representation in the design process. (6 lab hours) Units: 3 Typically Offered: Spring

CM 132. Advanced Architectural Design Prerequisite: CM 131 and upper division standing. Development of understanding of the forces affecting the man-made environment through function identification, systems analysis, and development of architectural design solutions to problems at an intermediate level of complexity. (6 lab hours) Units: 3

CM 134. Architectural Design Problems Prerequisites: CM 116, CM 132. Conceptual planning and design of a large scale architectural project responding to the built environment. Employing team research and analysis leading to the design and presentation on individual solutions with graphic and three-dimensional techniques. (6 lab hours) Units: 3

CM 140. Building Mechanical, Electrical, and Plumbing Prerequisites: CM 7S and CM 20. Survey of building mechanical, electrical, and plumbing systems. Orientation to the design fundamentals and construction of various sustainable and environmentally friendly systems and equipment. Lectures, field trips, and guest speakers. (2 Lec, 3Lab hours) Units: 3

CM 144. Construction Site Planning and Development Prerequisite: CM 116; senior standing. Analysis of land development; site investigation, grading, street piping systems, and landscaping. (2 lecture, 2 lab hours; field trips) Units: 3 Typically Offered: Fall, Spring

CM 150. Building Construction Prerequisites: CM 116; CE 121. Problems and methods of solutions in the construction of buildings; site; excavations, foundations, framework, timber, reinforced concrete, structural steel, masonry construction and related elements. Satisfies the senior major requirement for the B.S. in Construction Management. (2 lecture, 2 lab hours; field trips) Units: 3

CM 151. Heavy Civil Construction Prerequisites: senior standing or permission of instructor; CM 116; CE 121, CE 127. Problems and methods of solutions in heavy construction from earth moving, paving, compacting to tunneling; administrative procedures, quantity surveying, estimating, scheduling, and bidding. (2 lecture, 2 lab hours, field trips) Units: 3 Typically Offered: Fall

CM 160. Plumbing Systems Prerequisite: CM 20; PHYS 2B or MATH 76, all with grade of C or better. Construction application of water systems, plumbing and storm drainage, and sewage disposal systems. (1 lecture, 2 lab hours; field trips) (Formerly CM 166) Units: 2

CM 162. Mechanical Systems Prerequisites: CM 160 with grade of C or better. Mechanical systems for heating, ventilating, air conditioning, plumbing, storm drainage, and sewage disposal systems in commercial, industrial, residential construction; heat loss and gain, solar systems, mechanical system sizing, and life cycle cost analysis. Lectures, field trips, and guest speakers. (1 lecture, 2 lab hours; field trips) Units: 2 Typically Offered: Fall

CM 170. Construction Project Controls Prerequisite: CM 116. Development and application of contruction project control systems; principles of construction project and business management; methods of cost, schedule, quality, safety, and change management; survey of construction accounting and finance. (2 Lec, 2 Lab hours) Units: 3 Typically Offered: Fall

CM 177. Sustainable Construction Prerequisite: CM 7S. To provide an overview of emerging delivery systems for high performance green buildings and the basis on which their sustainability can be evaluated. Green Building rating systems will be discussed. Lectures, lab, field trips, and guest speakers. (2 Lec, 2 Lab hours) Units: 3 Course Typically Offered: Fall

CM 180A. Construction Management Capstone 1 Prerequisites: CM 116, CM 122, Senior Standing. Corequisites or Prerequisites: CM 107, CM 193, MGT 104. Prepare conceptual design, implementation of sustainable materials, assess construction components and utilize various planning approaches for a building project. Lab, field trips and guest speakers (3 lab hours) Units: 1 Typically Offered: Fall

CM 180B. Construction Management Capstone 2 Prerequisite: CM 170 and CM 180AS. The construction manager's relation to internal organization, owner, architect, engineer, public, press, legal aid, unions, trades, equipment, utilities, insurance, finances, government, and others. Lectures, lab, field trips, and guest speakers. (Formerly CONST 114) (2 Lec, 3 Lab hours) Units: 3 Typically Offered: Fall, Spring

CM 181. Construction Management Senior Seminar Prerequisite: Senior Standing. Presentation and discussion of current construction management practices. Standards of professionalism, leadership, and ethics. Professional practice issues and professional licensure. Units: 1

CM 191T. Technical Topics in Construction Prerequisite: permission of instructor. Investigation and analysis of selected subjects in construction. (2-6 lab hours) Units: 1-3, Repeatable up to: 6

COUN 201. Seminar in Multicultural Aspects of Counseling Prerequisite: COUN 174. Cognitive and experiential study of social and psychological variables which influence the cross-cultural counseling relationship. Culturally relevant models of counseling theory and practice are explored. Current research methods and findings are presented. (2 seminar, 2 lab hours) Units: 3

COUN 231. Seminar in Ethics and Professional Practices of Counseling Prerequisites: COUN 200 or permission of instructor; COUN 230 taken concurrently or completed prior to enrollment. Addresses professional concerns, including legal/ethical issues, professional identity, and Board of Behavioral Sciences regulations. Introduces family mediation and professional consultation. Includes a minimum of seven training hours in child abuse assessment and reporting in accordance with MFT licensing requirements. Units: 3

COUN 239. Field Placement in Counseling Prerequisites: COUN 231; 40 units in counseling program, including COUN 200, COUN 208, COUN 238, and permission of instructor prior to semester of enrollment. Supervised practice of marriage and family therapy. Settings may include community

agencies, school therapy programs, and hospitals. Typically requires a one-year commitment with specific clock-hour requirements. Students must carry professional liability insurance. Approved for RP and CR/NC grading. (CSU liability insurance fee, $8) Units: 3-12

CRIM 160T. Topics in Crimes Intensive focus on particular crime categories, e.g., political,corruption, terrorism; corporate, computer, white collar, fraud,embezzlement; homicide, assassination, mass murder, sexcrimes, violence, assault, rape, mayhem; property, burglary, robbery, piracy, professional pickpocketing, swindling, safe-cracking; organized; arson; and environmental. Units: 1-3 Course Typically Offered: Fall, Spring

CRP 135. Planning Law & Administration Prerequisites: G.E. Foundation, Breadth Area D, and CRP 81, or permission of instructor. Study of contemporary growth and land use management techniques used by local, state and federal governments. Examination of the role of public law in addressing urban growth and environmental change issues, and the legal aspects of preparing and administering planning controls and incentives. (Formerly CRP 106) Units: 3 Course Typically Offered: Fall

ECON 114. Economic Development of Poor Nations Prerequisites: ECON 40 and ECON 50 passed with C grade or better. Intensive study of the causes and consequences of underdevelopment which affect two-thirds of the world's people. Topics include theories of development, historical roots of underdevelopment, evaluation of aid programs, New International Economic Order, Asian export economies, managing external debt. Units: 3 Typically Offered: Spring

ECON 115T. Topics in Historical and Political Economics Prerequisites: ECON 40 and ECON 50 passed with C grade or better or ECON 165 with a C grade or better. Detailed investigation of developments in the United States economy. Topics vary with the needs and interests of students and faculty. Units: 1-3, Repeatable up to: 6

ECON 117. Environmental Economics Prerequisites: ECON 40 and ECON 50 passed with C grade or better. Investigation into the economics of resource use. Development and creation of resources through the application of technology and the destruction of resources through misuse and pollution of the environment. Units: 3 Course Typically Offered: Fall - even

ECON 167. Contemporary Socioeconomic Challenges Prerequisites: G.E. Foundation and Breadth Area D. In-depth analysis and discussion of major socio-economic challenges currently facing the U.S. Emphasis on understanding basic economic underpinnings of contemporary policy issues. Analysis of conflicting economic, social, political, and historical forces which condition and constrain policy implementation. G.E. Integration ID. Units: 3 GE Area: ID

ECON 183. Political Economy of the Middle East Prerequisites: G.E. Foundation and Breadth Area D. A survey of historical, social, cultural, political, and economic development, economic development in the Middle East. An examination of Western colonial policies, the creation of modern states and their political and economic policies, the role of religion, and cultural heritage. GE Area ID Units: 3 Typically Offered: Spring GE Area: ID

ECON 189T. Topics in Public Policy Prerequisites: ECON 40, ECON 50. Detailed analysis of questions of economic policy. Areas of investigation include social welfare policy, farm policy, environmental quality policy, and others. Topics to be varied with the interests and needs of students and faculty. Units: 1-3

EES 1. Natural Disasters and Earth Resources Prerequisite: G. E. Foundation B4 (except for those with declared majors in the College of Science and Mathematics). Processes and materials that produce the different geologic resources and hazards (earthquakes, volcanoes, floods, landslides). Plate tectonic theory (including continental drift) as the unifying model to explain geologic phenomena. Emphasizes the relationship between geology and humans. G. E. Breadth B1. (3 lecture, 2 lab hours; optional field trips (Course fee, $10). Units: 4 Typically Offered: Fall, Spring GE Area: B1

EES 3. Geology Field Trip Extended weekend field trip to areas of geologic interest including Yosemite National Park, Death Valley, or coastal California. May be repeated. Non-majors encouraged. CR/NC grading only. (Weekend field trips required; Field trip fee, $60) Units: 1, Repeatable up to: 3 Typically Offered: Fall

EES 4. Environmental SciencePrerequisite G.E. Foundation B4. Introduction to environmental science, focusing on environmental principles and processes. Topics include human population and consumption, ecosystems and biodiversity, resource management and conservation, energy sources and technology use, dynamics, ecosystems, pollution and wastes,environmental economics and ethics, global changes, and tomorrow's world. (3 lecture, 2 lab hours) (Course fee, $10) Units: 4 Course Typically Offered: Fall, Spring GE Area: B1

EES 9. Introduction to Earth Science Introduction to earth science emphasizing K-6 teacher preparation. Addresses topics in earthquakes, volcanoes, rock and mineral formation, oceanography, astronomy, and meteorology. For liberal studies majors only (Course fee, $10) Units: 3 Typically Offered: Fall, Spring

EES 12. Mineralogy Prerequisite: EES 1; CHEM 1A (or concurrently). Properties, relationships, uses origin of minerals; determination of common minerals by physical and other tests. Field trips may be required. (2 lecture, 3 lab hours) (Course fee, $35) Units: 3 Typically Offered: Fall

EES 31. Environmental Sampling Methods Prerequisites: CHEM 1A; EES 4. This course is an introduction to quantification, assessment, and prediction of environmental processes and interactions. The course will introduce students to sampling strategies and scientific procedures for addressing scientific questions. Ensuring that the procedures and strategies for data collection address defined hypotheses will be a central theme. (Formerly EES 150T) Units: 3 Course Typically Offered: Spring

EES 101. Igneous and Metamorphic Petrology Prerequisites: EES 30, EES 100; CHEM 1B (or concurrently). Origin classification, textures, structures, and geologic setting of igneous and metamorphic rocks; examination of samples in outcrop, hand specimen, and thin section. Weekend field trips required. (3 lecture, 3 lab hours) (Course fee, $35) Units: 4 Typically Offered: Spring

EES 102. Sedimentology Prerequisites: EES 30 or EES 31 (or concurrently). Origin, classifications, textures, and structures of sedimentary rocks; examination of samples in hand specimen and thin section. Required field component for field stratigraphy and sedimentology, and producing a formal field report. (3 lecture, 3 lab hours plus field project) (Course fee, $35) Units: 4 Typically Offered: Spring

EES 108. Soil and Water Sciences Prerequisites: BIOL 1A, CHEM 1B and 1BL, EES 1 or EES4, PHYS 2A or PHYS 4A and 4AL, MATH 75. Introduction to the physical, chemical, and biological properties of soil and water in relation to environmental sustainability. Introduction to the hydrologic cycle, distribution of soil and water sources. Discussion of soil and water resources management and policy issues. (3 lecture, 3 lab hours; optional field trips) (Course fee,$10) Units: 4 Course Typically Offered: Spring

EES 114. Engineering Geology Prerequisites: EES 1 and MATH 5 or MATH 72 or MATH 75 or MATH 75A and MATH 75B. Introduction to techniques and theory of geotechnical investigations. Includes field and lab techniques in soil and rock mechanics, rock logging, geophysics, slope stability, engineering hydrogeology, stereo analysis, seismic engineering. Recommended for students in geology or civil engineering. Field trips required. (2 lecture, 3 lab hours) (Course fee, $35) Units: 3 Typically Offered: Fall

EES 117. Hydrogeology Prerequisites: EES 1 or EES 4; MATH 75 or MATH 75A and 75B. Recommended courses: EES 124 and MATH 76. The hydrologic cycle; surface water processes; stream flow and hydrograph; properties of porous geologic materials; principles of groundwater flow; water wells; geology of groundwater occurrence; water quality and pollution. Field trip required. (2 lecture, 3 lab hours) (Course fee, $35) Units: 3 Typically Offered: Fall

EES 124. Geochemistry Prerequisites: CHEM 1A and CHEM 1B and EES 1 or EES 15; EES 12 and EES 101 recommended. Chemistry applied to earth processes and evolution. Reactions involved in origin and transformations of natural waters, rocks, and minerals. Crystal chemistry and behavior of elements and isotopes. (3 lecture hours) (Formerly GEOL 124) Units: 3 Typically Offered: Fall

EES 167. Oceans and Atmosphere and Climate Prerequisite: G. E. Foundation and Breadth Area B. Integrated introduction to oceans, and atmosphere, and climate changes: their origin and evolution; plate tectonics; ocean currents, waves, and tides; atmospheric circulation and El Nino; production and life; and environmental issues and concerns .G.E. Integration IB. Units: 3 Course Typically Offered: Fall, Spring GE Area: IB

EES 178. Geostatistics Prerequisites: EES 1 or EES 4; Math 75 recommended. Principles and application of geostatistics and visualization techniques in Geo-environmental sciences. Topics include spatial and temporal correlation, variograms, kriging, and factor analysis, etc. Techniques are used for evaluation of mineral deposits and characterization of an environment with limited sampling data. (2 lecture, 3 lab hours, 1 day required field tests). Units: 3 Course Typically Offered: Fall

EES 186. Environmental GIS Prerequisite: GEOG 107 recommended. Spatial information management, analysis, interpretation, and display using computer methods. Map concepts, spatial relationships, database design, and spatial analysis of data. Laboratory exercises using geologic map data, faults, earthquake epicenters, stream habitats and restoration, and endangered species. Familiarity with computers required. (2 lecture, 3 lab hours) Units: 3 Course Typically Offered: Fall

EES 191. Environmental Science Capstone Prerequisites: EES 124, EES 104W. This course surveys significant environmental challenges facing our local communities. We will evaluate scientific inquiry and investigation of environmental questions and design projects that attempt to seek solutions. Students will complete a data-driven study using an evidence-based approach to proving and disproving tractable hypotheses. This work will be presented in a final scientific presentation in oral and written form. Units: 3 Course Typically Offered: Spring

EES 199. Undergraduate Thesis Prerequisites: EES 104W; senior standing. Independent research project in any geology or environmental science topic supervised by a faculty member, and leading to completion of baccalaureate degree. Units: 3

EES 199S. Undergraduate Thesis through Service Learning Prerequisites: EES 102, 104W, 106, 108, 178, 186. Independent, service-learning based, culminating research on any geology or environmental science topic supervised by a faculty member, and leading to completion of a thesis with academic and applied values. Project must meet the specified needs of an identified community partner. Units: 3 Course Typically Offered: Fall, Spring

EES 202. Geology Laboratory Teaching Techniques Laboratory safety, lab lecture techniques, earth and environmental science activity design, equipment setups, student evaluation methods and grading, peer teaching assessment, leading field trips, etc. Primarily for teaching associates in geology. CR/NC grading only. (one 2-hour lab) Units: 1

EES 251T. Topics in Engineering Geology Prerequisites: major or minor in geology; permission of instructor. Advanced studies in areas such as slope stability, groundwater monitoring, drilling and core logging, water sampling, hazardous waste site investigations, and geophysical instrumentation. Units: 1-3

EES 217T. Topics in Hydrogeology and Environmental Geology Prerequisite: major in geology and/or permission of instructor. Studies of current issues and recent research topics which may include groundwater contamination, environmental pollution,and hazardous and nuclear waste management. Readings from books, journals, and government publications. Independent research and oral presentation required. Laboratory activities may be required. Units: 2-3

EES 220. Groundwater Hydrology Prerequisites: EES 117. MATH 77 recommended. Principles of flow through porous and fractured media; groundwater hydraulics in the saturated and unsaturated zones; contaminant transport; introduction to groundwater models. (2 lecture, 3 lab hours) (Course fee, $35) Units: 3

EES 230. Contaminant Transport Prerequisites: EES 117 or permission of instructor, MATH 76 and EES 178 recommended. A study of analytical methods to predict and draw maps of contaminant transport in water, air, and soil. MathCAD program will be used to solve the governing equations of chemical diffusion, advection and dispersion in the environment. Units: 3

EES 250T. Topics in Geology - Mine Reclamation Prerequisite: major in geology and/or permission of instructor. Advanced studies of such areas as petrology, marine geology, and regional stratigraphy. Some topics may have labs and field trips. Units: 1-3

EES 263. Water Resource Management Internship Course is taken with permission from the internship coordinator and program director. The internship requires at least 150 hours of work at pre-qualified, academically related site. Final report and presentation required. Report and presentation judged and graded by the faculty. Units: 3

EES 264. Climatology This course provides an understanding of weather phenomenonas the foundation of climate. Climate data from the National Climate Data Center will be manipulated to integrate spatial and temporal changes along with future forecast changes to understand natural water systems. Units: 3

EES 265. Hyrdological System Mechanisms of water and sediment transport in the hydrologic cycle. Advanced tools such as GIS will be used to quantify the storage and movement of water in the atmosphere, land surface, soil and underground aquifers. Units: 3

EES 266. Natural and Agricultural Uses of Water This course reviews natural and agricultural water use. The course identifies stakeholders and addresses natural water quality protection. Agricultural issues include soil properties,irrigation, water quality, and water reuse. Students will focus on water supply and quality management issues. Units: 3

EES 267. Urban and Industrialized Water Use This course introduces water management systems in urban and industrial settings. The basics of water occurrence, use,transport, treatment, and disposal are included. Units: 3

EES 268. Water and Politics This course explores the role of politics and public policy in developing water resources for California and the CentralValley. It provides background for understanding today's battles over the control and use of water and the future of water policy. Units: 3

EES 269. Environmental Policy for Water Management This course provides an overview of environmental law and policy including environmental impact assessment. Students prepare decision-making documents under the auspices of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) for water specific projects. Units: 3 CGE

EES 270. Water Economics This course will analyze water availability in light of water resource economics. Analytical tools will be used for policy and project assessment. Access points will be established forkey material, providing for problem comprehension and the initiation of contemporary solutions. Units: 3

ENGL 193T. Personal and Political: U.S. Poetry in the 1960sand 1970sThis study will include the Beats, the Confessionals, theDeep Imagists-as well as the major social justice and identity based poetries that rose up and changed the scope and direction of poetry during this pivotal period. We will look at how these movements might have grown out of (and/or in response to) the establishment, and what ways they respond to the accomplishments of earlier radical arts and cultural movements. We will also look at in what ways these mid-century poets were in conversation with contemporary cultural events and pressures (as well as historical cultural pressures), and in what ways they have reshaped the map and landscape of contemporary U.S. poetries. (Offered Fall 2019) Units: 4, Repeatable up to 8 units

ENGR 110. Engineering Literacy and Pedagogy Orientation to engineering; engineering practice, communications, and design process; engineering history and implications in society; technical documentation and resources; project selection criteria and sustainability. Units: 3

ENOL 175. Winery Mgmt; Prerequisites: ENOL 15 and permission of instructor. Physical properties of a winery; administrative organizational set-up; personnel; purchasing, packaging and shipping; local, state, and federal regulatory statutes. Units: 3 Course Typically Offered: Spring

FBS 155. Biology of Criminality This course examines criminal behavior in terms of psychophysiological factors, neurobiological and neuropsychological factors, and genetic factors. To understand the biology that underlies criminal behavioral responses to specific environmental factors. (Formerly CRIM 155) Units: 3

FIN 30. Personal Financial PlanningPersonal financial analysis, planning, and management for lifelong decision making. Topics include financial planning strategies; money and credit management; home

ownership; home, health, and auto insurance needs; savings and investment strategies; and retirement and estate planning. G.E. Breadth E1. Units: 3 Typically Offered: Fall, Spring GE Area: E1

FIN 120. Principles of Finance Prerequisites: ACCT 4A; DS 71; BA 105W or ENGL 160W (BA or ENGL course may be taken concurrently). Introduction to corporate financial management, investments, and financial institutions. Focus on financial policy, analysis, and valuation in a global environment. Topics include capital markets, risk and return, financial planning, capital budgeting, cost of capital, and working capital management. Units: 4 Typically Offered: Fall, Spring

FIN 121. Intermediate Financial Management Prerequisite: grade of C or better in FIN 120. Modern theories of corporate finance; financial decision making under uncertainty; efficient allocation of financial resources; advanced financial planning and control strategies. Units: 3 Typically Offered: Fall, Spring

FIN 122. Financial Institutions and Financial Markets Prerequisite: grade of C or better in FIN 120. Role of the Federal Reserve in monetary policy; interaction of fiscal and monetary policy; analysis of depository and nondepository financial institutions; regulatory issues in financial markets; public policy toward financial institutions. Units: 3 Typically Offered: Fall, Spring

FIN 123. Business Forecasting Prerequisite: DS 123; grade of C or better in FIN 120. Business activity analysis; methods of forecasting; general and specific forecasts; analysis of trends in product groups, sectors, regions, and other areas of the world economy; mathematical models and statistical decisions; analysis of case problems. Units: 3 Typically Offered: Fall, Spring

FIN 128. Investments Prerequisite: grade of C or better in FIN 120. Basics of investing; analysis of financial securities including debt and equity instruments, mutual funds, and exchange-traded funds; theories and techniques of asset allocation, active and passive portfolio management, and portfolio performance evaluations; fundamental analysis; technical analysis. Units: 3 Typically Offered: Fall, Spring

FIN 129A. Student-Managed Investment Funds I Prerequisite: grade of C or better in FIN 120. Analysis of investment strategies; analysis of investment vehicles; fundamental and technical analyses; assessing market and portfolio risks; evaluation of portfolio performance and business valuation. (Formerly FIN 129) Units: 3 Typically Offered: Fall, Spring

FIN 129B. Student-Managed Investment Funds II Prerequisite: Grade of B or better in Fin 129A and permission of instructor. Management of endowment funds; analysis of investment policy statements; analysis of investment styles; analysis of investment strategies; active vs. passive investing; portfolio protection and hedging; evaluation and reporting of portfolio performance. Units: 3 Typically Offered: Fall, Spring

FIN 131. Entrepreneurial Finance Prerequisite: grade of C or better in FIN 120. Using financial and entrepreneurial perspectives to make better decisions at each stage of the entrepreneurial process, from identification of opportunity to harvest. Issues: venture capital markets, deal structuring, valuations, later stage financing, going public and other harvesting methods. Units: 3 Typically Offered: Fall, Spring

FIN 138. Derivatives Prerequisite: grade of C or better in FIN 120. Introduction to the use and pricing of derivative assets such as options, futures, swaps, and option-like features embedded in corporate/treasury securities; mathematical concepts underlying derivative markets and contracts and

basic pricing models; derivative strategies for hedging and arbitrage. Units: 3 Typically Offered: Fall, Spring

FIN 139. Financial Policy and Strategy Prerequisites: FIN 121 and last-semester senior standing. Integration and application of financial analysis, policy, strategy, and theory across business functional areas in a globally competitive environment. Case analysis/computer simulations included. Units: 3 Typically Offered: Fall, Spring

FIN 147. Retirement Planning Fundamentals of retirement planning; qualified and nonqualified plans. Course will cover material required to prepare for the Certified Financial Planning designation. Topics include retirement needs and objectives, government regulations, various business and individual retirement plans, plan funding and investing, plan installation, admininstration, and termination, and social security. Units: 3

FIN 150. Financial Planning Prerequisite: permission of instructor. The concept of a total coordinated system of personal financial planning; evaluate existing programs, design improved plans and coordinate execution to achieve stated objectives. Includes data gathering, the psychology of financial counseling, and the counselor's fiduciary responsibilities. Case studies. Units: 3

FIN 178. International Finance Prerequisite: grade of C or better in FIN 120. Evolution of international monetary system; balance of payment accounting; foreign exchange; forecasting exchange rates; management of foreign exchange risk; political risk analysis; foreign direct investment; international money and capital markets. Eurocurrency markets; international banking; international monetary and banking organizations. Units: 3 Typically Offered: Fall, Spring

FIN 180. Real Estate Principles Meets California statutory course requirement for real estate salesperson's and broker's license. Theory and practice of urban land use. Location and legal dimensions, planning, and market processes; financial and investment decisions in real estate; computer analysis and case studies. Units: 3 Typically Offered: Fall

FIN 181. Real Estate Appraisal Prerequisite: grade of C or better in FIN 120 and FIN 180. Theory and determinants of real property value. Methods used in urban and rural property appraisals. Statistical techniques and the appraisal process; special purpose appraisals. Fieldwork required. Units: 3 Typically Offered: Spring

FIN 182. Real Estate Practices Meets California statutory course requirement for real estate broker's license. Relationship between public and private organizations active in real estate; company formation; selling and marketing techniques; financing; advertising; aspects of taxation; escrow procedure; property insurance; computer analysis and case studies. Units: 3 Typically Offered: Fall

FIN 183. Real Estate Finance Prerequisite: grade of C or better in FIN 120 and FIN 180. Characteristics and underwriting standards of institutions furnishing funds for real estate investment and development. Alternative financial instruments and their effect on property economics and value. Units: 3 Typically Offered: Spring

FIN 186. Business and Real Estate Economics Prerequisites: ECON 40, ECON 50. Applications of economic principles in business and real estate management; measure of profit, analysis of demand, cost analysis; price, wage, and public policies; case studies, analysis. Units: 3 Typically Offered: Spring

FIN 189T. Topics in Finance Topics covered in this course include money and credit management, savings and investment strategies, analysis of financial securities including debt and equity instruments, mutual funds and exchange traded funds, fundamental and technical analysis, and retirement and estate planning. Units: 3

FM 20. Textile Science Introduction to physical and chemical properties of textile fibers, yarns, fabric structures, finishes, and textile coloration. Criteria for selection and evaluation of textile properties,performance, and care. Review of pertinent regulations related to production, quality, and environmental protection. Units: 3

FSC 1. Introduction to Food Science and Technology Survey of specific types of industries, chemical composition, microbiological concerns, processing, and environmental risks and their control to ensure food quality and safety. Introduction to governmental regulation. Current issues in the food industry. Units: 3 Course Typically Offered: Fall, Spring

GD 171. Advanced Typographic Design Prerequisite: GD 170. Creation of unique typefaces for use in typographic solutions to projects such as brand identity ,packaging design, environmental graphics, and publication design. (Course fee $30). Units: 3Course Typically Offered: Spring

GEOG 2. Introduction to Cultural Geography Prerequisite: GE Foundation A2 for students in English college-readiness Category III and IV. General background to cultural geography, including origins of cultural landscapes, man's modification of the natural environment, and problems of population and settlement geography. G.E. Breadth D3. Units: 3 Typically Offered: Fall - even GE Area: D3

GEOG 4. World Geography Prerequisite: GE Foundation A2 for students in English college-readiness Category III and IV. Survey of world-wide social, cultural, economic and political forces; earth's physical features; economic development; cultural and natural resources; man-land relationships. Applicable concepts and methodologies. Approach is by continents and/or cultural realms. G.E. Breadth D3. Units: 3 Typically Offered: Fall, Spring GE Area: D3

GEOG 5. Physical Geography: Global Concepts, Weather and Climate The earth as a planet, map projections, location on the earth's surface, time, oceans, weather, and climate. Units: 3 Typically Offered: Fall

GEOG 7. Physical Geography: The Earth's Surface A survey of those elements of the physical environment at the earth-atmosphere contact. Fundamentals of landform features, soils, natural vegetation, and water bodies. Units: 3 Typically Offered: Spring

GEOG 81. Introduction to Community Planning Introduction to and discussion of theory and history of cities; the principals and methodologies of urban studies and analysis; value, ethnics, and practice of urban planning in American cities; planning policies that address urban sustainability, equity, and health problems in cities. G.E. Breadth D3. Units: 3 Course Typically Offered: Fall GE Area: D3

GEOG 111. Meteorology Prerequisites: MATH 75 (or equivalent) and GEOG 5 (or equivalent). Study of the earth's atmosphere; energy exchanges and temperature; pressure and air circulation; fog, clouds, precipitation and the hydrologic cycle; cyclonic storms and orographic processes; stability and

thunderstorms; weather modification and predictions with application to agriculture, aviation and other activities. Units: 3 Course Typically Offered: Fall - even

GEOG 112. Climatology Prerequisites: MATH 75 (or equivalent) and GEOG 5 (or equivalent). Study of various systems of climate classification. Climates as they exist throughout the world and the reasons for their occurrence. Units: 3Course Typically Offered: Spring - odd

GEOG 114. Micrometeorology (GEOG 114 same as PLANT 134.) Prerequisites: MATH75 (or equivalent) and GEOG 5 (or equivalent), or permission of instructor. Micrometeorological influences on local climates including natural ecosystems and varying agricultural canopies. Local climate influences on wildlife, domestic animals, and humans. Manipulation of local climate including frost protection, irrigation and wind sheltering. Microclimates of non-uniform terrain and urban environment. Units: 3 Course Typically Offered: Fall - odd

GEOG 115. Violent Weather/Climatic HazardsPrerequisite: G.E. Foundation and Breadth Area B. Studieshurricanes, tornadoes, thunderstorms, lightning, destructive winds, heat waves, drought, severe winter storms, and floods.Looks at physical laws and processes that account for their formation and behavior; examines human impact. G.E.Integration IB. Units: 3

GEOG 118. Air Quality Meteorology This course examines the sources, effects, and regulation of air pollutants; and the roles of meteorology in air pollution. Topics covered include air pollution sources and sinks, atmospheric systems and pollutant transport, welfare and health effects of air pollution. Units: 3

GEOG 122. Introduction to Biogeography Prerequisites: G.E. Foundation and Breadth Area B, and GEOG 30 (or equivalent). Examination of the living planet and global patterns of life. Topics covered include evolution, biodiversity, extinction, conservation, and impacts of global change on our planet's biosphere. (Formerly GEOG 117.) Units: 3 Course Typically Offered: Fall - even

GEOG 127. Global Environmental ChangePrerequisites: G.E. Foundation and Breadth Area B. Effects of human activities on the natural world from ancient times to the present with emphasis on local, regional, and global environmental changes and their implications for the future. Units: 3 Course Typically Offered: Spring - even

GEOG 128. Environmental Pollution Prerequisites: completion of G.E. Foundation and Area B. Breadth requirements. A discussion of current environmental pollution problems involving the atmosphere, land, and water. The adverse effects of transportation, surface mining, sewage and water disposal, noise, the use of pesticides, energy production and consumption, and related topics are examined. Units: 3 Course Typically Offered: Fall, Spring GE Area: IB

GEOG 129. Environmental Impact Assessment This course examines National Environmental Policy Act (NEPA) guidelines required to conduct environmental impact assessment (EIA) of a project via physical-chemical, biological, socioeconomic, and cultural analyses of the effects the proposed activity will have on the natural environment. G.E. Integration IB. Units: 3GE Area: IB

GEOG 132. United States Environmental Law Prerequisites: G.E. Foundation and Breadth Area D, and junior standing. Contemporary environmental problems and their interrelationships. The conceptual, constitutional, and administrative framework for environmental protection and management. Legislation

and case law for the protection and enhancement of the environment with emphasis on natural resources. (Formerly CRP 135). Units: 3 Course Typically Offered: Spring - odd

GEOG 133. Environmental Policy Management Discussion of theories, practices, and apparatus used in solving environmental problems from multidisciplinary approach to safeguard, sustain, and reinstate the physical environmental conditions. Topics include environmental policy, issues in water resources and solid waste management, and life cycle analysis. G.E. Integration ID. Units: 3 GE Area: ID

GEOG 134. Introduction to Environmental Entrepreneurship Discussion on how to set up a new business in environmental science, sustainability, green energy, and natural resource management. Topics include environmental equity and management, natural resource management, forestry, lifecycle analysis, waste management, green energy, engineering economics, and entrepreneurship. Units: 3 GEOG

GEOG 135. Environmental Protection Prerequisite: G.E. Foundation and Breadth Area D. An examination of the plight of nature; the values of nature preserved; man's attempt to preserve nature. Attention focuses on the national park movement, wilderness, endangered species, the management of lands for the purpose of preservation, and related topics. Units: 3 Course Typically Offered: Spring - odd

GEOG 139T. Environmental Regions Prerequisites: G.E. Foundation and Breadth Area D. Systematic and regional investigation of the physical and cultural complexes of various environmental regions. Regions to be discussed include the Humid Tropics, Arid Lands,Polar Lands, Coastal Lands, Mountain Environments, Island Environments. (Formerly GEOG 145T) Units: 3, Repeatable up to 9 units

GEOG 160. Urban Geography Prerequisites: G.E. Foundation and Breadth Area D. The city environment. An understanding of the changing urban environments from ancient through medieval to modern times; the relationship of the urban center to its surrounding hinterland; the interdependence of its functional parts; its problems and future. Units: 3 Typically Offered: Fall - even

GEOG 163. World Crises Prerequisites: G.E. Foundation and Breadth Area D. Current major political, economic, and environmental crises occurring on either a global or a regional level. Units: 3 Course Typically Offered: Spring - odd

GEOG 167. People and Places-A Global Perspective Prerequisites: G.E. Foundation and Breadth Area D. Contrasting characteristics of a diverse world; influence of major social, cultural, economic, and political forces on societal behavior and institutions; impacts of geographical factors including location, climate, natural resources, urbanization, diffusion/adoption of innovations, and rural/urban lifestyles on development. Multicultural/International M/I. Units: 3 Typically Offered: Fall, Spring

GEOG 184. Environmental Planning The course includes theoretical and practical with the components in an effort to provide students with the skills needed to critically evaluate environmental factors in the planning process. The class is generally organized.into two sections: policies and practices. G.E. Integration ID. Units: 3 GE Area: ID

GEOG 187T Topics in Urban Planning Techniques Selected topics such as analytical techniques; means for man-agement of urban development, including transportation, public fa-cilities, and activities in the private sector; public policy concerning issues of local and regional significance. (Formerly CRP 110T).Units: 1-3, Repeatable up to 6 unitsCourse Typically Offered: Spring - even

GEOG 191T. Topics in Geography Prerequisites: G.E. Foundation and Breadth Area D. Selected topics in cultural, physical, environmental, or economic geography or in geographic techniques. (Formerly GEOG188T). Units: 1-3 Course Typically Offered: Fall, Spring

GEOG 204. Environmental Planning This course is designed to familiarize the student with the fundamental concepts and mechanisms underlying environmental planning at the local, state, and federal level. The complex and embedded interactions of the build and natural environments will be examined. Units: 3

GEOG 205. Transportation Planning Introduction to brief history of U.S. transportation planning; basic concepts and the issues in transportation; analytical skills in travel, behavioral demand modeling; transportation economics, finance, and policies; sustainable transportation. Units: 3

GME 66. Computer-Aided Mapping Preparing transportation alignment, topographic, property boundary, environmental, cross section, structural and GIS maps and plans. Civil and Geomatics Engineering and Construction applications. Includes comprehensive computer mapping design experience. Units: 3 Course Typically Offered: Fall, Spring

GME 159. Subdivision Design Prerequisites: GME 40, GME 151. Subdivision map act, local subdivision regulations, title search, zoning study. Tentative and final subdivision layout, map drafting, computerized subdivision design, and drafting; environmental impact study. Field trips required. (Formerly SE 159) Units: 3 Course Typically Offered: Spring

GME 173. Introduction to GIS Prerequisites: GME 15 and GME 66 or permission of instructor. Data quality and accuracy, privacy, ethics, institutional, governmental and technological issues associated with GIS; hardware and software considerations for geodetically controlled cadastral, resource and environmental GIS applications; existing system case studies. (Field trips required) (Formerly SE 173) Units: 3 Course Typically Offered: Fall

GME 174. GIS Applications Prerequisite: GME 173. Use of available GIS. Applications software; spatial analysis, simulation modeling and system evaluation; practical applications to specific GIS scenarios; creation, manipulations, maintenance and analysis of geodetic, cadastral, administrative resource and environmental overlays. Field trips required. (Formerly SE 174) Units: 3

HONOR 102. Revolutions in Natural and Social Sciences This course examines fundamental changes in natural and social sciences. It focuses first on revolutions in natural sciences, particularly in physics and biology. It then surveys major changes in economic theory with an emphasis on the so-called marginal revolution. G.E. Integration ID. This course focuses on G.E. Integration ID and blends with Multicultural/International. Units: 4 GE Area: ID

ID 145. Design Studio VI-c: Human/Environmental Topic Prerequisite: ID 138. Studio to cover topics in human and environmental design and/or healthcare facilities and systems. Projects may also engage topics such as green design, aging,illness, and wellness. (8 lab hours) FS Units: 4 Course Typically Offered: Spring

IT 12. Basic Vehicle Systems; Design, construction, and mechanical functions of vehicle engines, fuel systems, electrical systems, power transmission, brakes, and wheel suspension; proper use and safety of tools and equipment. (2 lecture, 2 lab hours) Units: 3 Course Typically Offered: Fall

IT 20. Technology and Society Prerequisite: GE Foundation A2 for students in English college-readiness Category III and IV. Critical relationship between society and technology. Technology, as it applies to contemporary issues such as technology and gender, the fate of skill and labor's power under changing conditions, technology and war, the problem of technocracy, technology and consumer culture, and technological relations to the natural environment. G.E. Breadth D3. Units: 3 Course Typically Offered: Fall, Spring GE Area: D3

IT 30. Exploring Industrial Technology Systems Introductory survey of the Industrial Technology discipline including: technology sub-systems (power/energy, communication/electronics, product development, process control) and the relationship with other disciplines, including business management, engineering, education and health/safety. Includes field trips to business, educational and industrial facilities. (1 lecture; field trip) Units: 1

IT 74. Manufacturing Processes Study of how consumer and industrial products are manufactured, focusing on how raw materials (primarily metal and plastic) are changed into finished products. Topics include production processes of material addition, forming, casting, removal, separation, assembly, and finishing. (2lecture, 2 lab hours) (Course fee, $20) Units: 3
Course Typically Offered: Fall, Spring

IT 80. Wood Processing Technology Wood properties, materials, finishing; hand, portable electric, and machine tool processing; design, production planning; safety, adhesives, and cutting principles; machine design and use. (6 lab hours) (Course fee, $10) Units: 3

IT 92. Safety Management Principles of safety management in an industrial and agricultural environment; safety legislation and programs; management/supervisory and employee responsibilities and attitudes; physical hazards associated with chemicals, equipment, fire, compressed gases; other topics include eye, stress, drugs, lifting office, and noise safety. Units: 3 Course Typically Offered: Fall, Spring

IT 104. Product Design Prerequisite: IT 114 and IT 115. Elements, principles, and methods of design. Emphasis will be placed on the development of models and prototypes with attention to standard components, productivity, and packaging. (2 lecture, 2 lab hours) Units: 3 Course Typically Offered: Spring

IT 105. Fundamentals of Citrus Processing Lines Study of fundamentals and operation of modern citrus processing line. Topics include but are not limited to fruit unloading, transfer system, washing, grading and sorting. Equipment selection, programmable logic controllers and other technologies employed in a state of the art citrus processing line will also be studied. (2 lecture, 2 lab hours) (Formerly IT 191T) Units: 3 Course Typically Offered: Fall, Spring

IT 106. Energy Conversion and Utilization Fundamental sources of energy, including the following energy conversion systems: direct mechanical, external combustion, internal combustion, solar power, wind power, electrical and atomic systems. Experiments and demonstrations. (2 lecture, 2 lab hours; field trips) Units: 3 Course Typically Offered: Fall, Spring

IT 107. Facilities Planning and Materials Handling Facility planning techniques as applied to facility location, zoning, building codes, line balancing, shipping-receiving, offices, material handling, storage, project scheduling, and computerized layout. Units: 3 Course Typically Offered: Fall, Spring

IT 109. Irrigation Water Delivery Systems Exploration of irrigation and water delivery systems including sprinkler, drip tape (tubing), pumps, variable frequency drives (VFD), filters, control valves, automatic controllers, pipes and fittings, irrigation system efficiency, uniformity and system maintenance. (2 lecture, 2 lab hours) (Formerly IT 191T) Units: 3 Course Typically Offered: Fall, Spring

IT 114. Industrial MaterialsPrerequisites: CHEM 3A or instructor permission. Chemical and physical properties of metals, polymers, ceramics, composites. Atomic structure and phases of matter emphasizing crystalline and amorphous solids. Mechanical properties, strength and testing of materials including impact, hardness, and tensile. Metallographic, microscopic inspection of electronic, and metallic specimen. (2 lecture, 2 lab hours) (Course fee: $10) Units: 3 Course Typically Offered: Fall, Spring

IT 118. Production Operations A survey of production manufacturing operations: quality assurance, work sampling, testing, time and motion study; routing, scheduling, and inventory control; flow processes, material handling, and automation. (Field trips) Units: 3 Course Typically Offered: Fall, Spring

IT 120. Vehicle Engine Systems Prerequisites: IT 12, IT 52 or concurrently. Advanced study of vehicle engines and support systems. Includes engine theory, fuel and electrical systems, turbochargers, LPG, diesel, computerized emission and engine controls, and dynamometer testing analysis. (6 lab hours; field trips) Units: 3 Course Typically Offered: Spring

IT 129. Vehicle Diagnostic Procedures Prerequisites: IT 12, IT 52 or concurrently. Laboratory study and analysis of mechanical, electrical, and computer control problems. Technical reports. (6 lab hours) (Course fee, $5) Units: 3 Course Typically Offered: Spring

IT 137. International Quality Standards Prerequisites: IT 74 and IT 117. ISO 9000 and related quality systems, including how such systems are implemented and managed in organizations. Includes basic technology and organizational management concepts. Units: 3 Course Typically Offered: Spring

IT 184. Advanced Manufacturing Technology Prerequisite: IT 74, IT 117. Analysis of production operations including product design, work cells, tooling capacity planning, material handling, scheduling and flow chart using lean principles. Exploration of manufacturing paradigms. (2 lecture, 2 lab hours; field trips) (Course fee, $10) Units: 3 Course Typically Offered: Spring

IT 191T. Applied Sensor Technology This course covers sensor technology and their application in business, environmental, and agricultural industry. Students will primarily learn about sensors and controls, functions, and concepts such as sensor data models, control and data acquisition systems. Units: 3

IT 219. Applied Sensor Technology This course covers sensor technology and their applications in business, environmental, and agricultural industry. Students will primarily learn about sensors and controls, functions,and concepts such as sensor data models, control and data acquisition systems for Internet of Things (IoT) technology and smart automation. Units: 3

IT 285. Adv Manu Systems; Prerequisites: IT 115. A comprehensive study of modern manufacturing systems. Topics include plant layout, material control and transfer, operations measurement, transfer

lines, CNC and DNC, machine tool network, computer-integrated manufacturing, flexible manufacturing systems, group technology, robotics, and manual assembly systems. Units: 3

KINES 118. Fundamentals of Exercise Physiology Prerequisites: KINES 35 or BIOL 33 or BIOL 67A and BIOL 67B. The study and application of physiological bases of movement, work, response, and adaptation to exercise. Environmental conditions, gender, and age considered. Units: 3 Course Typically Offered: Fall, Spring

KINES 232. Environmental Exercise Physiology The physiological responses/adaptations/illnesses to heat, altitude, cold, hyperbaric, polluted, and microgravity environments with attention to human performance will be studied. Course will emphasize acute and chronic effects of heat and hydration on exercise performance. Units: 3

KINES 264. Psychology of Coaching: Talent Development Examination of psychological components of the coaching and talent development. Explores coaching development, coaching models, as well as strategies for dealing with athletes and different coaching contexts. Discussion of talent development theories including influence of genetic and environmental factors. (Formerly KINES 250T) Units: 3

LEE 180W. Literacy for Social Justice and Equity Prerequisites: Completion of at least 56 units; Completion of the lower-division writing requirement. Enrollment limited to Liberal Studies majors. This course explores literacy for social justice and equity in schools, communities, and societies. Students will engage in reading, discussion, and the writing process. Units: 3 Course Typically Offered: Spring

MATH 45. What Is Mathematics? Prerequisite: Mathematics placement category I or II. Students in Mathematics placement category III or IV must take Math 45L. Covers topics from the following areas: (I) The Mathematics of Social Choice; (II) Management Science and Optimization; (III) The Mathematics of Growth and Symmetry; and (IV) Statistics and Probability. G. E. Foundation B4. Units: 3 Typically Offered: Fall, Spring GE Area: B4

MATH 45L. What Is Mathematics w/Support Covers topics from the following areas: (I) The Mathematics of Social Choice; (II) Management Science and Optimization; (III) The Mathematics of Growth and Symmetry; and (IV) Statistics and Probability. G. E. Foundation B4. (3 lecture, 3 lab hours) Units: 4 GE Area: B4

MATH 101. Statistical Methods Prerequisite: MATH 70 or MATH 75, or MATH 75A and B; no credit if taken after MATH 108. Application of statistical procedures to examples from biology, engineering, and social science; one- and two-sample normal theory methods; chi-square, analysis of variance, and regression; nonparametric methods. Computerized statistical packages are used. Units: 4 Typically Offered: Fall, Spring

MATH 107. Mathematical Statistics Prerequisite: MATH 77 (may be taken concurrently). Probability theory; discrete and continuous distributions; random variables; conditional distributions; multivariate distributions; limit theorems; maximum likelihood methods. Units: 3 Typically Offered: Fall

MATH 123. Mathematical Modeling Prerequisite: MATH 77. Application of mathematical techniques to solve selected problems in areas such as ecology, biology, economics, finance, social sciences, life sciences, physical sciences and engineering. The emphasis will be on the building of mathematical

models and on interpreting the solutions of these models in terms of real-life applications. Units: 3 Typically Offered: Spring - odd

MATH 145. Problem Solving Prerequisite: MATH 111; EHD 50 (may be enrolled concurrently). A study of formulation of problems into mathematical form; analysis of methods of attack such as specialization, generalization, analogy, induction, recursion, etc. applied to a variety of non-routine problems. Topics will be handled through student presentation. Units: 3 Typically Offered: Fall

MBA 263. Seminar in X Marketing Prerequisites: MBA 214. With approval of instructor, students explore a current hot topic in marketing and prepare a major investigative paper and presentation for professional critique. Example topics include relationship marketing, e-marketing, societal marketing, green marketing, non-profit marketing, and database marketing. Units: 3

ME 166. Energy Systems Design Prerequisites: ME 145, ME 156, and ME 118. Design of conventional and alternative energy conversion systems i.e.solar; selection and integration of components of the system; use of codes and standards. Group project report required. Satisfies the senior major requirement for B.S. in Mechanical Engineering. Units: 3

ME 291T. Power Systems and Renewable Energy This course includes power plant technology, power plant engineering, and energy conversion. In this course you will learn about the variety of power generation technologies. From novel technologies to traditional ones. From fossil fuels to renewable energy. From nuclear fission to nuclear fusion. From renewable solar and wind energy to novel plasma processing of organic fuels. From hydrogen power in fuel cells to geothermal and hydro-electrical power. Learn about plants and newfusion projects to clean power generation of the future. Learn about Magneto-Hydro-Dynamic (MHD) generators; nuclear batteries; about the traditional power generation with coal, gas,and oil, and clean coal gasification technologies and coal to liquid fuels trends; how to protect the environment knowing the physics behind the power generation; energy environment; Energy Conservation and Energy Storage; several applications using present and future technologies including Plasma-processing of organic components, among others. Units: 3

MGT 133S. Managing Nonprofit and Socially Responsible,Sustainable Organizations Prerequisites: MGT 104 and MGT 106, or MGT 110 andBA 105W or ENGL 160W (may be taken concurrently). Examination and analysis of the critical features of nonprofit and socially responsible, sustainable organizations in the private sector. Topics include ethics issues in management, governance, managing and motivating volunteers and employees in nonprofit context, sustainability approaches and practices. Lecture, case studies, field experience, and research. Units: 3 Course Typically Offered: Fall, Spring

MKTG 167. Environmental Sustainability & Marketing Subtle interrelations of regulations, technological innovations, policies, organizational and consumer behaviors in the pursuit of environmental sustainability; perspectives, meaning, goals, and assessment of sustainability; role of marketing in environmental sustainability. Units: 2

NSCI 15. Environmental Science: An Integrative Course A study of the interrelationships among the anthropological, biological, and geological aspects of man/woman and the natural environment. Team taught. CR/NC grading only. (HNE program field trip fee, $75) Units: 3

NSCI 40T. Topics in Natural Sciences Prerequisite: permission of instructor. Interdisciplinary topics covering such subject matter areas as environmental studies and the impact of science on society. Units: 1-4

NSCI 115. Environmental Earth and Life Science Prerequisites: completion of General Education Foundation and Breadth Area B. Environmental problems related to population, energy and resource use, and pollution. Examines social and ethical issues along with technological and scientific factors. Independent work on case studies required. G.E.Integration IB. Units: 3 GE Area: IB

NSCI 116. Energy, Technology, and Society Not open to engineering students. Prerequisites: NSCI 1A and NSCI 1B. Examines the role that chemistry, physics,and technology play in our society. Designed especially for students planning careers as elementary school teachers. Units: 3

NSCI 120. Biotechnology and Its Impact on Society Prerequisites: completion of General Education Foundationand Breadth Area B; courses in biology and chemistry (highschool or college) strongly recommended. Introduction to the tools of modern biotechnology including recombinant DNA, gene therapy, cloning, monoclonal antibodies, DNA fingerprinting, and the Polymerase Chain Reaction (PCR). Addresses applications of biotechnology to medicine, agriculture, the environment, and forensics, as well as ethical implications. G.E. Integration IB. Units: 3 GE Area: IB

PAX 100. Peace and Conflict Studies Provides an overview of causes and types of conflict. Critical examination of issues related to war, peace, and justice. Principled negotiation; cultural awareness. GE ID (Formerly INTD 180) Units: 3 Typically Offered: Fall, Spring GE Area: ID

PH 104. Global and Cultural Issues in Health Prerequisite: G.E. Foundation and Area D; PH 90. Influence of culture on health and disease; relevant health issues of cultural and ethnic groups; alternative healing and holistic health; role of international health organizations; health problems on a world scale. History and evaluation of programs of international health organizations; health problems on a world scale. Multicultural/International M/I. Units: 3 Typically Offered: Fall, Spring

PH 105. Risk Assessment and Analysis Human and environmental risks as they relate to injuries and illnesses; includes incident causation analysis and assessment. Areas of study encompass occupational safety, consumer products, human factors, environmental health, and human and property costs. Units: 3 Course Typically Offered: Fall

PH 109. Epidemiology of Disease Prerequisite: PH 92, Math 11, Psych 42, or DS 73. Modern concepts and principles of epidemiology; interaction of allagents, host, and environmental factors of communicable and noncommunicable diseases. Units: 3

PH 114. Health Behavior An introduction to the theory and practice of health behavior change. Covers individual behavior change methodologies and the effects of public and environmental change on individual health. Units: 3 Course Typically Offered: Fall, Spring

PH 131. Principles of Health Education Study of the foundations, theories, systems, and principles of health education. Includes an analysis of social, medical, and environmental factors on health-related behaviors. Units: 3 Course Typically Offered: Fall, Spring

PH 145. Occupational and Environmental Systems Management Concepts and principles dealing with the problems, processes, evaluation, and solutions in the development, implementation, and management of an effective environmental health and occupational safety program. Units: 3

PH 151. Health Law and Legislation The theory and practice of managing inspection-based enforcement programs in health care and environmental health areas, with emphasis on legislation, procedure, and cases relating to public health. Units: 3 Course Typically Offered: Fall

PH 156. Health & Well-being in the San Joaquin Valley Why does the San Joaquin Valley experience relatively worse life outcomes? What public policies can improve health and well-being for Valley residents? Historical and current research on the economic, political, environmental, and cultural factors. Application of social-epidemiology frameworks. (Formerly PH 152T.) Units: 3

PH 160. Principles of Toxicology Basic principles and concepts of toxicology with a particular emphasis on the regulation of environmental and industrial toxicants for man/woman. Units: 3

PH 161. Environment and Human Health General principles of environmental health with a particular emphasis on the interaction between man/woman and the environment. Environmental epidemiology, water, wastewater, air, solid waste, ionizing radiation, and noise. Focuses on prevention and control disease and injury caused by chemicals, food protection, air/ water quality radiation, hazardous waste, et cetera. Units: 3 Course Typically Offered: Fall, Spring GE Area: IB

PH 162. Environmental Health Concepts Prerequisite: PH 161. Basic principles and concepts of environmental health with a particular emphasis on health hazards, communicable disease control, contamination control, food protection, rodent control, managing special environments, planned environments, and environmental health organizations. Units: 3 Course Typically Offered: Fall

PH 166T. Topics in Environmental Health Analysis and investigation of selected areas in environmental health with some topics including laboratory experiences. Units: 1-3Course Typically Offered: Fall, Spring

PH 168A. Occupational Health Concepts Concepts of occupational health as they pertain to appraising and controlling environmental health hazards; occupational diseases, chemical, biological, and physical agents that produce organic or systemic damage. Problems in toxicology, measurement instruments, and evaluating health hazards. (Formerly HS 168) Units: 3 Course Typically Offered: Fall

PH 175I. Environmental Internship Prerequisites: completion of 21 units of the health science major (Core and Environmental Option courses). Provides practical experience in environmental health. Requires a 3.0 GPA in Health Science coursework, or permission of the instructor. Permission numbers required. CR/NC grading only. (CSU liability insurance fee, $8) Units: 1-4 Course Typically Offered: Fall, Spring

PH 206. Environment and Occupational Health Application and evaluation of environmental health principles to air, land, water, waste, and occupational health with emphasis on contemporary issues. Units: 3

PH 208. Health Promotion Focuses on behavioral change techniques derived from many areas of applied research including behavior modification and social interaction theory. Information emphasizes the health relevant principles in each domain and shows how they can be used to understand or change public health problems. Units: 3

PHIL 10. Self, Religion, and Society Prerequisite: G.E. Foundation A2. Conceptions of human nature; nature and varieties of religion; personal and social implications and values of religion. G.E. Breadth C2. Units: 3Typically Offered: Fall, Spring GE Area: C2

PHIL 110. Feminist Philosophy Introduction to feminist approaches to philosophy and to specifically philosophical approaches to gender. Several philosophical issues will be explored at some depth. These might be drawn from the following areas: personal identity; values and society; political authority; knowledge and reality. Units: 3

PHIL 115. Ethical Theory Introduction to the fundamental concepts and problems of moral theory. Examination of various ethical theories, including relativism, egoism, utilitarianism, intuitionism, and non-cognitivism; the meaning of ethical terms. Units: 3
PHIL 118. Social and Political Theory Examination of traditional and contemporary theories of society and government. Analysis of basic concepts such as the common good, social contract, authority, justice, and natural rights. Units: 3 Typically Offered: Fall

PHIL 120. Contemporary Conflicts of Morals Prerequisites: G.E. Foundation and Breadth Area C. Exploration of moral issues through great works, such as philosophy, novels, dramas, or films. Looks at questions such as, "What is it to be moral? Why be moral? Why care about others? How should scarce resources be distributed? What is integrity?" GE Area IC Units: 3 Typically Offered: Fall, Spring GE Area: IC

PHIL 121. Ethics in Criminal Justice Philosophical issues concerning society's treatment of criminal behavior. Topics discussed include: morality and law; punishment or rehabilitation; safe vs. repressive society, and what types of deviant behavior should be regarded as criminal? Units: 3

PHIL 123. Bioethics Pre-requisites: G.E. Foundation and Breadth Area B2 and either PHIL 20 or PHIL 120 or instructor consent. Not open to Freshmen. Survey of ethical issues within the biomedical sciences. Typical issues include research ethics, informed consent, genetics, stem cell research, non-Western perspectives, ethical and legal regulations. (Formerly PHIL 165T) Units: 3

PHIL 125W. Issues in Political Philosophy Prerequisites: completion of 60 units and a C or better in ENGL 5A, 5B or 10. Examination of prominent political philosophies and contemporary issues of politics and public policy. Policy issues may include the scope and limits of government authority, the role of government in the economy, foreign policy, health care, education, agriculture, and the environment. Meets the upper-division writing skills requirement for graduation. Units: 3

PHIL 126. Social Justice Examination of theories, issues, and goals in social justice. Explore social justice topics, such as justice in healthcare, wealth, the environment, culture, and religion, along with responses to social injustice, such as responses to oppression, bigotry, poverty, and structural violence. Units: 3

PHIL 130. Philosophy of Religion The nature and function of religious faith, belief, and practice; relations between religion and morals; existence of God; problem of evil; nature and significance of religious experience. Units: 3

PHIL 132. Religion and the Margin Prerequisites: G.E. Foundation and Breadth Area D. Exploration of elements facing religious studies that have been historically moved from the center to the side

(marginalized), such as women's experience, ethnicity, gender, and class. Focus will include how religion has both supported and resisted this move. Multicultural/International M/I. Units: 3 Typically Offered: Fall, Spring

PHIL 156. Moral Psychology Analysis of mind and morality: philosophical perspectives on cognitive and affective aspects of virtuous and non-virtuous dispositions and behaviors. Topics may include agency, motivation, intention, desire, deliberation, practical judgment, self-control, weakness of will, akrasia, compulsion, self-deception, self-knowledge, regret, blame. Units: 3

PHIL 157. Freedom, Fate, and Choice Nature of human action, free will and determinism, free will and moral responsibility; analysis of basic concepts; for example, will, action, freedom, determinism, fatalism, chance, choice, decision, intention, reason, desire, belief; implications for everyday life. Units: 3

PHIL 158. Judaism Introduction to Judaism, including Torah, Jerusalem, Mishnah, Talmud, midrash, synagogue, Orthodox, Reform, Halakha, Passover, Shabbat, Yom Kippur, anti-Semitism, and Holocaust. Units: 3

PHIL 170T. Senior Seminar - Philosophy and Diaspora Prerequisites: senior standing or permission of instructor and at least one upper-division philosophy course. Intensive investigation of selected problems, major figures, or a historical period in philosophy. Extensive writing and supervised research. Units: 1-4, Repeatable up to: 12

PHTH 512. Applied Pathophysiology for Physical Therapists This course involves an advanced study of physiology of body systems and the responses to normal aging,environmental influences, and pathological dysfunction.Includes cardiovascular, pulmonary, endocrine, neurological,musculoskeletal, and integumentary systems.Units: 3

PLANT 100. Aspects of Crop Productivity Prerequisite: BIOL 11. Study of the growth, development,and basic physiological processes of cultivated crops.Environmental influences on crop growth and development processes and management techniques to minimize stresses and maximize crop yield and quality.Units: 3

PLANT 105. Food, Society, and Environment Prerequisites: General Education Foundation and Breadth AreaB completed, Junior standing required. Linkages among food production systems, human social behavior, and environmental quality. Basic principles of environmental and agricultural sciences as applied to interrelationships among social value systems, agricultural activities and environmental resources.G. E. Intergration IB. Units: 3 Course Typically Offered: Fall, SpringGE Area: IB

PLANT 140. Greenhouse & Nursery Crop Production Prerequisites: BIOL 11 or PLANT 40. Fundamentals of greenhouse and nursery crop production. Emphasis on sustainable and economically viable production and management systems for significant flower, foliage and nursery crops. (3 lecture, 3 lab hours; field trips) (Formerly OH104)Units: 4Course Typically Offered: Fall

PLANT 150. Crop Improvement Prerequisite: BIOL 11. Application of genetic, cytological and environmental principles to improvement of plants; heredity and variation in plants, effects of environmental factors,biotechnology, self- and cross-fertilization, principles and results of selection and hybridization in plant improvement.Units: 3Course Typically Offered: Fall

PLANT 165. Pesticides Prerequisite: CHEM 3B or CHEM 8. Typical uses, modes of action, mechanisms of selectivity, environmental interactions,and user safety of insecticides, herbicides, fungicides, nematocides, rodenticides, and plant growth regulators. Effective and safe use of agriculture chemicals by reading labels and following laws/regulations. (Formerly PLTH 102) Units: 3 Course Typically Offered: Fall

PLANT 172. Soils Prerequisites: CHEM 3A, intermediate algebra. Physical, chemical, and biologic properties of soils as a medium for plant growth and as a natural body, factors that influence soil formation; food and fiber production; fertilizer and soil amendment use and environmental impact; soil's role in the biosphere. (Formerly SW 100) Units: 3 Course Typically Offered: Fall

PLANT 251. Soil-Plant-Water Relations Prerequisites: BIOL 161 and SW 100. Water flow and solute transport through the soil-plant-atmosphere continuum (SPAC). Soil-plant-water relationships affecting water use efficiency, agriculture productivity, and environmental quality. Management of salinity, drainage, and trace elements. Irrigation scheduling and water quality. (2 lecture, 3 lab hours) Units: 3

PLSI 71H. Introduction to Environmental Politics Introduction to the study of environmental politics and policy making in the United States; a brief history of environmentalism; basic principles in environmental policymaking including interest groups, legislatures, and levels of government selection of current topics in environmental issues. G.E. Breadth D3.Units: 3 GE Area: D3

PLSI 120. International Politics Prerequisites: G.E. Foundation and Breadth Area D. Dynamicsof political interactions of nations; nationalism, imperialism and interdependence; national power and diplomacy; types of conflict, including war; peaceful settlement of disputes;current issues involving competing foreign policies, national development, energy, and national liberation movements. Multicultural/International M/I. Units: 3 Course Typically Offered: Fall, Spring

PLSI 156T. Topics in Political BehaviorVoting behavior, political alienation, leadership, political perceptions and knowledge, environmental effects on political participation, group processes, and political socialization. Units: 1-4

PLSI 157. Environmental Politics Examines theory, concepts, and practices in U.S.environmental politics and policy. Topics include ecological principles, the history and philosophy of environmentalism, the contemporary political conflict over environmental policy, and environmental policy analysis. (Formerly PLSI 189T) Units: 3

PLSI 175. Water Politics and Policy This course focuses on the development of policy regarding the ownership and use of surface and groundwater in the American West, California, and the Central Valley. It also examines the political clash between economic and environmental demands for water. Units: 3

PSCI 168. Energy and the Environment Prerequisite: G.E. Foundation and Breath Area B. Analysis of energy crisis; introduction to various forms of energy, energy conversion processes and environmental effects; present energy supply and energy projections; future energy demands and ways of evaluating alternatives. G.E. Integration IB Units: 3 GE Area: IB

PSYCH 173. Environmental Psychology The scientific study of the effects of human behavior on the environment and the psychological effects of the environment on human behavior. Topics include issues

related to overpopulation, pollution, urbanization, noise, and environmental disaster, as well as environmental policies andgrass-roots movements worldwide.Units: 3-4

RA 145. Environmental Interpretation Philosophies, concepts, practical techniques for environmental interpretation. Introduces students, through lectures, class activities, and projects, to individuals and agencies involved in EI. Roles of environmental education and persuasive communication in promoting environmental attitudes and behaviors are emphasized. (Formerly RA 192T) Units: 3 Course Typically Offered: Fall

REC 86. Backpacking in the Sierra Mountains Fundamental skills and knowledge for backpacking,car camping, and hiking in the Sierra Mountains or similar settings. Includes skills for camping, hiking, basic navigation,trip planning, and outdoor cooking, plus safety and environmental issues. (Course fee, $40) CR/NC grading only. Units: 1

REC 88. Rock Climbing Basic skills and knowledge of rock climbing including history, trends, equipment, climbing technique, top roping, knot tying, rappelling, training, safety, and environmental issues. (Formerly RLS 192T) CR/NC grading only. Units: 1 Course Typically Offered: Fall

REHAB 201. Professional Identitv and Ethics in Counseling This seminar provides an overview of the practice and profession of counseling. Areas to be examined include the historical, theoretical, legal, ethical and philosophical basis of counseling; supervision, professional organizations, credentials and trends of professional counselors. The course includes lectures, class discussions, guest lecturers, visits to outside facilities, reading and reporting on professional literature and experiential exercises. Units: 3

REHAB 238. Clinical Rehabilitation and Mental Health Counseling Practicum Prerequisites: COUN 200; REHAB 201, REHAB 204, COUN 220 and REHAB 237. Supervised experience in the application of counseling techniques in rehabilitation and counseling environments. Designed to provide direct, face-to-face counseling experiences with clients to develop students' basic communication, counseling and documentation competencies. Students must carry professional liability insurance (2 seminar, 2 lab hours). Units: 3

REHAB 239. Internship in Clinical Rehabilitation & Mental Health Counseling Prerequisites: COUN 200, COUN 202, REHAB 201, REHAB 211, REHAB 237, REHAB 238, or permission of instructor. Full-time, supervised field placement in one of a variety of settings including case responsibilities. Approved for RP grading and CR/NC grading only. (CSU liability insurance fee, $8) (Formerly COUN 269) Units: 9

SOC 1/1S. Principles of Sociology Introduction to the principles and theoretical perspectives of sociology and their application to the fundamental problems of social life. Discussion of sociological methods and findings in such areas as family, race relations, deviance. "S" sections (SOC 1S) include a Service-Learning requirement. For more information, visit www.fresnostate.edu/cesl. G.E. Breadth D3. Units: 3 GE Area: D3

SOC 3. Critical Thinking About Society Prerequisites: Grade of C or better in SOC 1 for sociology majors and minors. Theory and practice in basic skills of critical thinking and sociological analysis. Skills demonstrated by oral and written performance including analysis of computerized data sets. Topics covered and assignments vary with instructor. G.E. Foundation A3. (2 lecture, 2 lab hours) Units: 3 Typically Offered: Fall, Spring GE Area: A3

SOC 111. Sociology of Race and Ethnicity Prerequisites: G.E. Foundation and Breadth Area D. Dominant and minority group relations historically, cross-culturally, and in contemporary American society. Primarily, the bases examined are in terms of ethnicity-race, religion, nationality, country-of-origin, nativity, and language. Multicultural/International M/I. Units: 3 Typically Offered: Fall, Spring, Summer

SOC 122. Social Movements Theory of nonviolent direct action in the pursuit of social justice and social change. Discussion of goals, ideology, norms, organizational structure, leadership, strategy, tactics, and social roots of social movements. Units: 3 Typically Offered: Spring - odd
SOC 125. Statistics for the Social Sciences Prerequisite: completion of Math requirement in G.E. Foundation B4; grade of C or better in SOC 1 or SOC 1S and SOC 3 or SOC 3S; open only to Sociology majors and Sociology minors. Introduction to quantitative methods as an aid to the understanding of research in the social sciences. Application of basic descriptive and inductive statistics to the social sciences. (2 lecture, 2 lab hours) Units: 4 Typically Offered: Fall, Spring

SOC 130W. Contemporary Social Issues Prerequisite: satisfactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement; grade of C or better in Tier One courses (SOC 1 or 1S and SOC 3 or SOC 3S for sociology majors and minors). A sociological perspective is used to examine currently debated public issues. Often, public issues involve present or proposed public policies; the impact of these policies on different segments of society is assessed. Meets the upper-division writing skills requirement for graduation. Units: 4 Typically Offered: Fall, Spring

SOC 130WS. Contemporary Social Issues Prerequisites: satisfactory completion (C or better) of the ENGL 5B or ENGL 10 graduation requirement; grade of C or better in SOC 1 or SOC 1S and SOC 3 or SOC 3S for sociology majors and minors. Currently debated public issues are examined using a sociological perspective. Often, public issues involve present or proposed public policies; the impact of these policies on different segments of society is assessed. Meets upper-division writing skills graduation requirement. S sections include a service-learning requirement. Units: 4 Typically Offered: Fall, Spring

SOC 131. Sociology of Sex and Gender Prerequisites: G.E. Foundation and Breadth Area D. Introduces students to the sociological study of sex and gender. Looks at how men and women experience differently such social structures as work and the economy, family and courtship, and media. Examines the evidence for the persistence of gender differences and their importance. G.E. Integration ID. Units: 3 GE Area: ID

SOC 132. Women and Work (SOC 132 same as WS 132.) An examination of women and work in contemporary society including housework, labor force participation, employment in various occupations, and career planning. Units: 3

SOC 142. Sociology of Popular Culture Prerequisites: G.E. Foundation and Breadth Area D. Impact of popular culture on modern society. Includes movies, television, fiction, and other forms of popular culture. The meaning, the creation and production, and the future of popular culture. Multicultural/International M/I. Units: 3

SOC 143. Deviance and Control Prerequisites: G.E. Foundation and Breadth Area D. Rule-breaking behavior (such as crime, delinquency, mental illness) and responses to it. Examines deviance as a social phenomenon, its causes and consequences, and formal and informal social control activities. G.E. Integration ID. Units: 3 GE Area: ID

SOC 144. Social Policy Analysis Interdisciplinary social science methods for approaching local and national social problems. Analysis of selected public issues emphasizing evaluation of social costs and benefits of alternative policies. Units: 3 Typically Offered: Fall

SOC 147. Medical Sociology Political and economic organization of American medical health care system and cross-cultural comparisons. Analysis of social relations and interactions among members of the health professions affecting designations of persons as ill and their subsequent treatment. Units: 3 Typically Offered: Fall, Spring

SOC 148. Sociology of Education A sociological examination of education as an institution, including its social determinants, functions, and consequences. Units: 3

SOC 150T. Sociology of Food Food has many sociological layers: it serves as an identity marker, it is embedded in culture, it can be a source of both pleasure and pain, is a social system, and it is even a tool of power. This course will address much misunderstandings, as well as issues of culture, meaning, identity, power, and ecology, all through a focus on food. (Offered Fall 2019) Units: 3

SOC 151. Social Classes and Inequality Prerequisites: Grade of C or better in Tier One and Tier Two courses (SOC 1 or 1S; SOC 3 or 3S; SOC 125; and SOC 130W/WS or UDWE); open only to Sociology majors and Sociology minors. Examines classical and contemporary theoretical approaches to the sociological study of socioeconomic inequality, including the social causes and consequences of stratification. This course will also address key policy debates, major research findings, and methodological approaches to the study of inequality. Units: 4 Typically Offered: Fall, Spring

SOC 152. Classical Sociological Theory Prerequisites: Grade of C or better in Tier One and Tier Two courses (SOC 1 or 1S; SOC 3 or 3S; SOC 125; and SOC 130W/WS or UDWE); open only to Sociology majors and Sociology minors. Evolution of classical sociological theories. Consideration of their origins in society and culture. Examination of such theorists as Marx, Weber, Durkheim, Simmel, Mead, and others Units: 4 Typically Offered: Fall, Spring

SOC 153. Sociological Theory Prerequisites: Grade of C or better in Tier One and Tier Two courses (SOC 1 or 1S; SOC 3 or 3S; SOC 125; and SOC 130W/WS or UDWE); open only to Sociology majors and Sociology minors. Survey of classical and contemporary sociological theoretical perspectives developed after the "classical" period. Theories covered may include: micro-sociological perspectives of phenomenology and symbolic interactionism, social behaviorism, structural-functionalism, neo-Marxian perspectives and critical theory, accounts of modernity and post-modernity, feminist theory, systems theories, and others Units: 4 Typically Offered: Fall, Spring

SOC 161. Population Analysis Population theories and history; demographic processes and variables in contemporary society. Analysis of census data. Units: 3

SOC 162. Social Psychology Prerequisites: Tier One courses (SOC 1, SOC 3, SOC 25, and SOC 130W or UDWE). Social factors affecting the development of social personality, attitudes and behavior. Basic social processes involved in interpersonal interaction. Demonstrations and student observations to increase an understanding of social processes in everyday life Units: 3 Typically Offered: Fall, Spring

SOC 163. Urban Sociology Prerequisites: G.E. Foundation and Breadth Area D. The urban concept; form and development of urban areas; scientific study of urban places and populations; effect of urbanization on social institutions and social relations. G.E. Integration ID Units: 3 Typically Offered: Fall, Spring GE Area: ID

SOC 165. The Family The family in historic and contemporary society, theoretical frameworks for analyzing the family, family dynamics; changes in family functions, structures, and roles. Units: 3 Typically Offered: Fall

SOC 168. Interpersonal Relationships Exploration of the basic elements of interpersonal relationships including listening, disclosure, feedback, empathy. (Formerly SOC 150T section) Units: 3 Typically Offered: Fall

SOC 169. Sociology of Religion Major sects, denominations, and churches; integrative and disintegrative processes in the United States; contemporary religious phenomena. Units: 3 Typically Offered: Spring

SOC 170T. Spatial Data Analysis/GIS This course will serve as an introduction GIS and the growing field of spatial data analysis, using population data. (Offered Fall 2019) Units: 2

SOC 174. Computer Data Analysis Prerequisites: Soc 1/1s and Soc 125 for sociology majors and minors must be completed prior to enrollment. An introduction to the use of widely utilized computer packages for analyzing quantitative data (e.g., SPSS) and/or qualitative data (e.g., NVIVO) in the social sciences. Prepares students for academic and empirical research. No prior knowledge of computers is necessary. Units: 3 Typically Offered: Spring

SOC 175. Quantitative Research Methods in Sociology Prerequisites: Grade of C or better in Tier One and Tier Two courses (SOC 1 or 1S; SOC 3 or 3S; SOC 125; and SOC 130W/WS or UDWE); open only to Sociology majors and Sociology minors. The research process with special emphasis on measurement, sampling, data collection, data analysis, and report preparation. Basic assumptions and dilemmas of social science research. Units: 4 Typically Offered: Fall, Spring

SOC 176. Qualitative Research Methods in Sociology Prerequisites: Grade of C or better in Tier One and Tier Two courses (SOC 1 or 1S; SOC 3 or 3S; SOC 125; and SOC 130W/WS or UDWE; open only to Sociology majors and Sociology minors. Overview of qualitative research methods in sociology, including interviews, participant observation, historical research, and content analysis of print and audio/visual media. Examines qualitative theory, ethics, proposals, choosing a site, informant relationships, collecting and analyzing data, writing reports, and disseminating research. Units: 4 Typically Offered: Fall, Spring

SOC 183S. Philanthropy and Grant Making Reviews the history and evolving role philanthropy in American society. Students investigate local social problems, research community benefit organizations (CBOs) that address those issues, develop a request for proposals (RFP) to fund specific projects, and evaluate funding proposals Units: 3

SOC 184S. Grant Writing & Evaluation Conceptual aspects of developing, writing, and evaluating a grant proposal in the context of fund development strategies for CBOs. Emphasizes researching and preparing grant proposals as well as reading, discussing, and writing critiques of grant proposals and evaluating grant-funded programs Units: 3

SOC 186S. Governance, Administrative Principles, & Financial Literacy Introduces standards of excellence for effective community benefit organizations, including governance, administration and steward leadership, and fiscal management and oversight; allows for application in community-based settings. Examines elements of becoming an independent consultant to CBOs, including client assessment, contracting, reporting, and approximately 35 hours of consulting with CBOs. Units: 3 Typically Offered: Fall

SOC 187S. Entrepreneurial Approaches to Sustainable CBOS Applies a team-centered, open-ended, problem-solving approach and assessment utilizing ce-learning and entrepreneurial methodology to enhance the organizational capacity and long-term sustainability of community benefit organizations (CBOs), including approximately 35 hours of consulting with CBOs. Units: 3

SWRK 123. Social Welfare Policies and Programs Prerequisites/Corequisites: SWRK 20 passed with a C grade; SWRK 123 and 135 must be taken concurrently. Concurrent enrollment in SWRK 160 also required; 2.5 minimum cumulative GPA and completion of lower division GE. Basic policies and major programs in contemporary social welfare; consumption, income supports, job provision, housing, health, civil rights, consumer advocacy, population control, environmental standards; principles of social security, administration of social services, roles of government and citizen participation. Units: 3 Course Typically Offered: Fall

VIT 162T. Vineyard Ecology and Organic Production This course will help students develop an understanding of vineyard production systems, environmental aspects of vineyards; ecosystem services of vineyards; socio-economic aspects of vineyards; aspects of organic production of raisin, table, and wine grapes; and aspects of organically produced wine. (Offered Fall 2019) Units: 3

WS 136T. Topics in International Women's Studies Repro Justice Global - Examines how global economic and cultural processes affect women. Investigates the interconnections between "first" and "third" worlds through topics such as international division of labor, work and gender ideologies, and women's organized resistance to changes in local economics. (Formerly WS 150T) Units: 3, Repeatable up to: 9