

UC DAVIS



**Fall Addendum
to the
General Catalog
and
Class Schedule and
Registration Guide
2002**



2002-2003
2003-2004

Change to the Community Development minor program

	UNITS
Community Development	24
Community and Regional Development 1	4
Five courses selected from Community and Regional Development 140, 141, 142, 151, 157, 158, 162, 164, 168, 171, 172, 173, 176	20

Change to Nutrition Science major program

B.S. Major Requirements:

	UNITS
English Composition Requirement	0-8
See College requirement	
Preparatory Subject Matter	60-66
Anthropology 2 or Geography 2 or Sociology 3	4
Biological Sciences 1A, 1B, 1C	15
Chemistry 2A-2B-2C and 8A-8B, or 118A-118B, or 128A-128B and 129A21-23 Mathematics 16A-16B	6
Physics 1A-1B (Nutritional Biochemistry option) or Economics 1A-1B (Community Nutrition option).....	6-10
Sociology 46A or Psychology 41	4
Statistics 13 or Agricultural Management and Rangeland Resources 120	4
Breadth/General Education	6-24
Satisfaction of General Education requirement	
Depth Subject Matter	57-58
Animal Biology 102, 103	10
Biological Sciences 101	4
Food Science and Technology 100A and 100B	8
Neurobiology, Physiology, and Behavior 101, 101L	8
Nutritional Biochemistry option: Nutrition 111A and 111B, 113, 116A, 116B, 117, 190	23
Additional nutrition	9
Community Nutrition option: Nutrition 111A and 111B, 113, 116A, 116B, 119, 190, 192 (2 units)	25
Restricted Electives	14-15
Select one of the two options.	
Nutritional Biochemistry option: Biochemistry laboratory (Molecular and Cellular Biology 120L or an alternative selected upon consultation and approval of the faculty adviser).....	6
Additional courses in genetics, biochemistry, microbial biology, physiology, immunology, or toxicology, chosen from the following list in consultation with the faculty adviser	8
Animal Genetics 111, Animal Science 123, 124, Anthropology 153, Biological Sciences 104, Environmental Toxicology 101, 112A, 112B, 114A, 114B, 128, Exercise Science 101, 102, 110, Food Science and Technology 100C, 104, 123-123L, 128, Neurobiology, Physiology, and Behavior 112, 113, 114, 121, 130, 161, Molecular and Cellular Biology 121, 122, 123, 141, 150-150L, 161, 162, 163, Microbiology 102, 160, Medical Microbiology 107, 130, Psychology 108, Population, Health, and Reproduction 150, Pathology, Microbiology, and Immunology 102, 126, 127, 128.	
Community Nutrition option: Economics 100, 101, or Agricultural and Resource Economics 100A, 100B	8-10
Additional courses chosen from the following list in consultation with the faculty adviser	5-7
African American and African Studies 100, Agricultural and Resource Economics 15, 120, 130, Agricultural Management and Rangeland Resources 150, Anthropology 101, 122, 126, 131, 133, Asian American Studies 100, Chicana/o Studies 110, 140, Communication 145, Community and Regional Development 2, 151, 152, 153, 172, 174, 175, 176, Consumer Science 100, Economics 115A, 115B, 123, 130, 151A, 151B, 162, Education 110, 153, Environmental Science and Policy 126, 165, Environmental Toxicology 101, 128, Epidemiology and Preventive Medicine 101, 160, 180, Exercise Science 101, 102, 110, 113, 117, Food Science and Technology 104, 140, Geography 170, Human Development 100A, 100B, 100C, International Agricultural Development 10, 103, 110, 111, 195, Native American Studies 115, Political Science 105, Psychology 1, 108, 112, 130, 145, 160, 168, Sociology 145A, 145B, 154, 170.	
Unrestricted Electives	6-38
Total Units for the Degree	180

Change to Clinical Nutrition major program

B.S. Major Requirements:

	UNITS
Written/Oral Expression	8
English 1 or 3	4
Communication 1	4
(Above courses simultaneously satisfy College requirement.)	
Preparatory Subject Matter	48-49
Biological Sciences 1A, 1B.....	10
Chemistry 2A, 2B, 2C, 8A, 8B.....	21
Economics 1A or 1B	5
Psychology 1	4
Sociology 1 or 3 or Anthropology 2	4-5
Statistics 13.....	4
Breadth/General Education	6-24
Satisfaction of General Education requirement	
Depth Subject Matter	88
Agricultural and Resource Economics 112	4
Community and Regional Development 173 or Education 110.....	4
Animal Biology 102 and 103.....	10
Biological Sciences 101	4
Food Science and Technology 100A, 100B, 101A, 101B, 108.....	15
Food Service Management 120, 120L, 122.....	8
Food Science and Technology 104-104L or Microbiology 102-102L.....	6-7
Nutrition 111A and 111B, 112, 116A, 116AL, 116B 116BL, 119, 190	31
Neurobiology, Physiology, and Behavior 101, 101L	8
Additional upper division Nutrition electives.....	6
Unrestricted Electives	10-31
Total Units for the Major	180

Correction to Psychology major requirements

A.B. Major Requirements:

	UNITS
Preparatory Subject Matter	21-25
Psychology 1 or the equivalent.....	4
Psychology 41	4
Statistics 13 or 102	4
(Strongly recommended that Psychology 41 and Statistics 13 or 102 be com- pleted in the first year.)	
Biological Sciences 1A; or a combination of Biological Sciences 10 and one course from Anthropology 1, Molecular and Cellular Biology 10, or Neurobiology, Physiology, and Behavior 10	5-8
One course in sociology or cultural anthropology (may be lower or upper divi- sion), minimum of 4 units.....	4-5
Depth Subject Matter	40
Two courses from two of the following four groups and one course from the remaining two groups	23-24
Group A: Psychology 100, 130, 131, 132, 135	
Group B: Psychology 101, 113, 121, 122, 123, 126, 127, 129	
Group C: Psychology 151, 154, 162, 168	
Group D: Psychology 140 (or Human Development 100A or 100B), Psychology 141/Human Development 101, Psychology 142/Human Development 102	
Additional units to achieve a total of 40 upper division units in psychology	16-17
(A maximum of 12 approved upper division Human Development units can be credited toward satisfaction of the 40-unit requirement.)	
Total Units for the Major	61-65
B.S. Major Requirements:	
Biology Emphasis	UNITS
Preparatory Subject Matter	52-61
Psychology 1 or the equivalent.....	4
Psychology 41	4
Statistics 13 or 102	4
(Strongly recommended that Psychology 41 and Statistics 13 or 102 be completed in the first year.)	
Mathematics 16A-16B or 17A-17B or 21A-21B	6-8
Physics 10 or 7A-7B	4-8

Biological Sciences 1A, 1B.....10
 Chemistry 2A, 2B.....10
 Chemistry 8A-8B or 118A-118B or 128A-128B6-8
 One course in sociology or cultural anthropology (may be lower or upper division), minimum of 4 units.....4-5

Depth Subject Matter49
 Seven Psychology courses distributed as specified:
 Group A: two courses from Psychology 100, 130, 131, 132, 1358
 Group B: three courses from Psychology 101, 113, 121, 122, 123, 126, 127, 129.....11-12
 Group C: one course from Psychology 151, 154, 162, 1684
 Group D: one course from Psychology 140 (or Human Development 100A or 100B), Psychology 141/Human Development 101, Psychology 142/Human Development 102.....4

Additional units to achieve a total of 40 upper division units in psychology12-13
 (A maximum of 12 approved upper division Human Development units can be credited toward satisfaction of the 40-unit requirement.)

Biological Sciences 1014
 Neurobiology, Physiology, and Behavior 1015

Total Units for the Major
 (Biology Emphasis).....**101-110**

Recommended
 Psychology 180B, 199 (on a psychobiological topic), Anthropology 154A, Environmental Science and Policy 110, Evolution and Ecology 100, 101.

Mathematics Emphasis

UNITS

Preparatory Subject Matter44-58
 Psychology 1 or the equivalent.....4
 Psychology 414
 Statistics 13 or 1024
 (Strongly recommended that Psychology 41 and Statistics 13 or 102 be completed in the first year.)

Mathematics 21A, 21B, 21C.....12
 Computer Science Engineering 30 or Engineering 53
 Chemistry 10 or 2A-2B or 2AH-2BH4-10
 Physics 10 or 7A-7B4-8
 Biological Sciences 1A; or a combination of Biological Sciences 10 and one course from Anthropology 1, Molecular and Cellular Biology 10, or Neurobiology, Physiology, and Behavior 105-8
 One course in sociology or cultural anthropology (may be lower or upper division), minimum of 4 units.....4-5

Depth Subject Matter48
 Five Psychology courses, distributed as specified:
 Group A: two courses from 100, 130, 131, 132, 1358
 Group B: two courses from Psychology 101, 113, 121, 122, 123, 126, 127, 129.....7-8
 Group C: one course from Psychology 151, 154, 162, 168
 or
 Group D: one course from Psychology 140 (or Human Development 100A or 100B), Psychology 141/Human Development 101, Psychology 142/Human Development 1024

Additional units to achieve a total of 40 upper division units in psychology11-12
 (A maximum of 12 approved upper division Human Development units can be credited toward satisfaction of the 40-unit requirement.)

Psychology 103A5
 One course from Psychology 103B, 104, or the equivalent.....4
 One course sequence from Statistics 106-108, 130A-130B, 131A-131B8

Total Units for the Major
 (Mathematics Emphasis)**92-106**

Additional date for Examination in English for International Students

September 18, Wednesday

9:00 a.m. sharp to 12:30 p.m.

Examination in English for International Students (graduate and limited status) in 198 Young Hall. Required of students whose native language is not English to determine their ability to understand lectures and written material and to express themselves satisfactorily in writing. Call (530) 752-3464. Photo ID is required.

Subject A Examination

September 24, Tuesday

8:45 a.m. sharp to 11:00 a.m.

Subject A Examination (530-752-0450) in 194 Chemistry. Recommended for undergraduate students who have not satisfied the Subject A requirement by one of the means described in the *General Catalog*. Photo ID required. Exam registration not required. First-time test takers must pay \$55 fee. (Students who took the Universitywide Examination in May 2002 are not eligible to take this exam.)

Change to Biological Sciences B.S. major requirements

Under Marine Biology emphasis, category (3) should read:

(3) *Marine Organismal Biology*: At least 4 units from Animal Science 118, 119, 131, 136, 136A; Evolution and Ecology 112+112L; Neurobiology, Physiology, and Behavior 141+141P; Plant Biology 118; Wildlife, Fish and Conservation Biology 120+120L, 121, 1304

Molecular, Cellular and Integrative Physiology Graduate Group

The Physiology Graduate Group has changed its name to Molecular, Cellular and Integrative Physiology.

Change to Animal Biology B.S. major requirements

Under Preparatory Subject Matter, the requirements should read:

Biological Sciences 1A-1B-1C.....15
 Chemistry 2A-2B-2C, 8A-8B or 118A-118B.....21-23
 Mathematics 16A-16B-16C or 17A-17B-17C or 21A-21B-21C.....9-12
 Physics 7A-7B-7C12
 Statistics 13 or 100 or 102 or Agricultural Management and Rangeland Resources 120.....4
 Animal Biology 50A, 50B, 50C.....8

Change to Animal Science B.S. major requirements

Under Preparatory Subject Matter, the requirements should read:

Animal Science 1, 2, 41, 41L12
 Biological Sciences 1A, 1B, 1C15
 Chemistry 2A, 2B and 8A, 8B or 118A, 118B16-18
 Agricultural Management and Rangeland Resources 21.....3
 Mathematics 16A, 16B or 17A, 17B or 21A, 21B.....6-8
 Agricultural Management and Rangeland Resources 120 or Statistics 100...4
 Major Adviser and Minor Adviser: J.G. Fadel

Change to Avian Sciences B.S. major requirements

Under Preparatory Subject Matter, the requirements should read:

Avian Sciences 11 or 133-4
 Biological Sciences 1A, 1B, 1C15
 Chemistry 2A, 2B, 2C, 8A, 8B.....21
 Agricultural Management and Rangeland Resources 21.....3
 Mathematics 16A-16B-16C or 17A-17B-17C or 21A-21B-21C.....9-12
 Physics 1A-1B or 7A-7B-7C6-12
 Statistics 13.....4

Updates and changes to courses

African American and African Studies (AAS)

10. African-American Culture and Society (4)

Lecture—3 hours; discussion—1 hour. Critical examination of the historical, political, social, and economic factors that have affected the development and status of African-American people in contemporary society. GE credit: Div.—I. (I.) Harrison
(change in existing course—eff. fall 02)

Agricultural and Resource Economics (ARE)

290. Topics in Agricultural and Resource Economics (3)

Lecture—3 hours. Selected topics in agricultural and resource economics, focusing on current research. May be repeated 4 times for credit. Not offered every year.—I, II, III. Chalfant
(new course—eff. fall 02)

American Studies (AMS)

1A. Science and American Culture (4)

Lecture—3 hours; discussion—1 hour. American science as a cultural system. Mutual influence and interaction of that system with other cultural systems including religion, social thought, art, architecture, literature, music, and common sense. GE credit: ArtHum, Div, Wrt.—I. (I.) Mechling
(change in existing course—eff. spring 02)

Anatomy, Physiology, and Cell Biology (APC)

410. Equine Locomotor Anatomy (1.8)

Lecture—9 sessions; laboratory—9 sessions. Prerequisite: second-year standing in the School of Veterinary Medicine. Normal anatomy of the equine fore and hind limb bones, joints, muscles, ligaments, tendons, nerves and vessels with emphasis on clinically applicable structures.—III. (III.) Stover
(change in existing courses—eff. spring 02)

458. Behavior Theory in Companion Animals (2)

Lecture—20 sessions. Prerequisite: third-year standing in the School of Veterinary Medicine. Clinical application of behavior modification procedures, management and drug therapy to resolve common behavioral problems of companion animals including dogs, cats, horses and birds.—III. (III.) Bain
(change in existing course—eff. spring 02)

Animal Behavior (ANB)

210. History of Animal Behavior (1)

Discussion—1 hour. Prerequisite: consent of instructor. Classic, seminal papers in animal behavior. Discussion of readings and broader historical context in which papers were written. (S/U grading only.)—I. (I.) Capitanio
(new course—eff. fall 02)

Animal Science (ANS)

136A. Aquatic Animal Growth Laboratory (2)

(cancelled course—eff. fall 02)

Anthropology (ANT)

102. Cultural Ecology (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: one lower division course in the social sciences, upper division standing. Comparative survey of the interaction between diverse human cultural systems and the environment. Primary emphasis given to people in rural and relatively undeveloped environments as a basis for interpreting complex environments. Not open for credit to students who have completed course 133. (Former course 133.) (Same course as Environmental Science and Policy 102.) GE credit: SocSci, Div, Wrt.—III. (III.) Orlove
(change in existing course—eff. spring 03)

133. Cultural Ecology (4)

(cancelled course—eff. spring 03)

159. Molecular Anthropology of Native America (4)

Seminar—3 hours; term paper. Prerequisite: course 1 or Biological Sciences 1B or consent of instructor. Use of DNA and other genetic polymorphisms to test hypotheses regarding genetic relationships among different Native American tribal groups and about prehistoric population replacements and migrations to and within the Americas. Integration with craniometric, archaeological, paleoenvironmental, linguistic and ethnohistorical evidence. Offered in alternate years.—III. Smith
(new course—eff. spring 03)

180. Zooarcheology (4)

Lecture—2 hours; discussion/laboratory—3 hours. Prerequisite: course 1 and 3 or consent of instructor. Theories and methods for studying animal skeletal remains from archaeological sites. Identification and quantification of zooarchaeological material, cultural and natural processes affecting animal bones pre and postburial, and use of faunal remains for determining past human diets and past environments. Offered in alternate years.—III. Darwent
(new course—eff. spring 03)

Art History (AHI)

1DV. Arts of Asia (Web) (4)

World Wide Web Virtual Lecture—3 hours; discussion—1 hour. Introduction to major forms and trends in the arts and material culture of Asia from the Neolithic to the contemporary emphasizing the visual manifestation of secular and religious ideas and ideals. Not open for credit to students who have completed course 1D. GE credit: ArtHum, Div.—I, II. (I, II.) Burnett
(new course—eff. fall 02)

Biological Sciences: Evolution and Ecology (EVE)

211. Applied Phylogenetics (3)

Lecture—2 hours; laboratory—3 hours. Prerequisite: course 103 or 210 or Population Biology 200C or the equivalent, graduate standing. Applications of phylogenetic methods to fields outside of systematics. Core lectures/labs in remedial phylogenetics, phylogeography, conservation and comparative morphology. Special topics vary yearly. May be repeated once for credit.—III. (III.) Sanderson, Shaffer, Wainwright
(new course—eff. spring 02)

Biological Sciences: Exercise Biology (EXB)

131. Teaching Physical Activity to Special Populations (3)
(cancelled course—eff. fall 02)

Biological Sciences: Neurobiology, Physiology, and Behavior (NPB)

90D. Lower Division Seminar: Current Issues in Reproductive Endocrinology (2)

Seminar—2 hours. Prerequisite: lower division standing. The integrative roles of reproductive hormones in mammalian reproduction and health. Current theory and models regarding hormone function and use in reproductive health and contraception, and evidence that supports or refutes the models.—I. (I.) Barkley
(new course—eff. fall 02)

Biostatistics (BST)

222. Biostatistics: Survival Analysis (4)

Lecture—3 hours; discussion/laboratory—1 hour. Prerequisite: Statistics 131C. Incomplete data; life tables; nonparametric methods; parametric methods; accelerated failure time models; proportional hazards models; partial likelihood; advanced topics. (Same course as Statistics 222.)—I. (I.)
(new course—eff. fall 02)

223. Biostatistics: Generalized Linear Models (4)

Lecture—3 hours; discussion/laboratory—1 hour. Prerequisite: Statistics 131C. Likelihood and linear regression; generalized linear model; Binomial regression; case-control studies; dose-response and bioassay; Poisson regression; Gamma regression; quasi-likelihood models; estimating equations; multivariate GLMs. (Same course as Statistics 223.)—II. (II.)
(new course—eff. fall 02)

224. Biostatistics: Clinical Trials and Advanced Topics (4)

Lecture—3 hours; discussion/laboratory—1 hour. Prerequisite: course/Statistics 223. Clinical trials; sequential design; covariate adjustment; meta-analysis; applications of generalized linear models; longitudinal studies; random effects models; advanced topics. (Same course as Statistics 224.)—III. (III.)
(new course—eff. fall 02)

252. Advanced Topics in Biostatistics (4)

Lecture—3 hours; discussion/laboratory—1 hour. Prerequisite: course 222, 223. Biostatistical methods and models selected from the following: genetics, bioinformatics and genomics; longitudinal or functional data; clinical trials and experimental design; analysis of environmental data; dose-response, nutrition and toxicology; survival analysis; observational studies and epidemiology; computer-intensive or Bayesian methods in biostatistics. May be repeated for credit with consent of adviser when topic differs. (Same course as Statistics 252.) Offered in alternate years.—III.
(new course—eff. fall 02)

290. Seminar in Biostatistics (1)

Seminar—1 hour. Seminar on advanced topics in the field of biostatistics. Presented by members of the Biostatistics Graduate Group and other guest speakers. May be repeated for up to 12 units of credit. (S/U grading only.)—I, II, III. (I, II, III.)
(new course—eff. fall 02)

Chemistry (CHE)

241E. Microscopy and Imaging Techniques (3)

Lecture—3 hours. Prerequisite: course 110C and 115 or the equivalent. Introduction to modern microscopy and imaging techniques: scanning tunneling, atomic force, far-field optical, fluorescence, scanning near-field optical, and scanning electron microscopy. Application to nanoscience and analytical and bioanalytical chemistry. Some laboratory demonstrations. Offered in alternate years.—II.
(new course—eff. fall 02)

Chicana/Chicano Studies (CHI)

181. Chicanas and Latinas in the U.S.: Historical Perspectives (4)

Lecture/discussion—4 hours. Prerequisite: course 10 or Women's Studies 50. Historical issues in the lives of Chicanas, Puertoriquenas, and Cubans in the U.S. and their countries of origin. GE credit: ArtHum, Div, Wrt.—II. (II.) Chavez-Garcia
(new course—eff. winter 03)

Communication (CMN)

161. Cultural Perspectives on Health Communication (4)

(cancelled course—eff. fall 02)

Ecology (ECL)

220. Spatio-Temporal Ecology (2)

Lecture/discussion—2 hours. Prerequisite: Population Biology 200B or course 204 or Evolution and Ecology 104 or Environmental Science and Policy 121 or consent of instructor. Spatio-temporal ecological theory focusing on population persistence and stability, predator-prey and host-parasitoid interactions, species coexistence and diversity maintenance, including effects of environmental variation, spatial and temporal scale, life-history traits and nonlinear dynamics. Topics vary. (Same course as Population Biology 220.) May be repeated once for credit. (S/U grading only.)—II. Chesson
(change in existing course—eff. winter 03)

Economics (ECN)

270A. Economics of Growth (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 200D and 200E. Modern theories and empirics of economic growth beginning with the neoclassical theories up to current endogenous growth models. Emphasis on the analysis of human capital and growth, technological innovation, its diffusion and empirical evidence on growth.—I. (I.) Peri
(new course—eff. fall 02)

270B. Economics of Growth (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 200D and 200E. Empirical analysis of growth patterns and growth models. Emphasis on the relationship between macroeconomic management and long-term growth; the use of foreign capital in accelerating growth and its occasional mishaps; the comparison of growth performance in East Asia and Latin America since WW2; the experiences of centrally-planned economies and transitions to market-based growth; and the transformation from an industrial economy to a knowledge economy.—II. (II.) Woo
(new course—eff. winter 03)

270C. Economics of Growth (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 200D and 200E. Institutional bases; politics; contracts and commitment; money and finance; malthusian dynamics; modern economic growth; transition of industrialization; dual economies, core and periphery; sources of convergence and divergence; openness and growth; resources, demography, and geography; institutions, imperialism, and class conflicts.—III. (III.) Taylor
(new course—eff. spring 03)

Education (EDU)**206A. Inquiry into Classroom Practice: Traditions and Approaches (2)**

Lecture/discussion—2 hours. Prerequisite: enrollment in teacher credential program. Introduction to traditions and approaches of teachers conducting research in their own classrooms: purposes, focal areas, methods of data collection and analysis, and written genre conventions.—I. (I.)
(new course—eff. fall 02)

206B. Inquiry into Classroom Practice: Intervention and Data Collection (4)

Lecture/discussion—2 hours; fieldwork—2 hours. Prerequisite: course 206A. Analysis and application of teacher research through the development, implementation and evaluation of a classroom research-based intervention. Particular attention to research that enhances learning of English language learners and under-performing students.—II. (II.)
(new course—eff. fall 02)

206C. Inquiry into Classroom Practice: Data Analysis, Interpretation, and Reporting (4)

Seminar—1 hour; fieldwork—3 hours. Prerequisite: course 206B. Procedures of data analysis. Continuous collaborative inquiry resulting in preparation of a research portfolio.—II. (II.)
(new course—eff. fall 02)

Engineering: Biological Systems (EBS)**205. Continuum Mechanics of Natural Systems (4)**

Lecture/discussion—4 hours. Prerequisite: Mathematics 21D and 22B, Physics 9B. Continuum mechanics of static and dynamic air, water, earth and biological systems using hydraulic, heat and electrical conductivity; diffusivity; dispersion; strain; stress; deformation gradient; velocity gradient; stretch and spin tensors. (Same course as Hydrologic Sciences 205.)—I. (I.) Wallender
(new course—eff. fall 02)

Engineering: Biomedical (BIM)**220. Research Topics in Biomechanics (3)**

(cancelled course—eff. fall 02)

286. Nuclear Imaging in Medicine and Biology (4)

Lecture/discussion—3 hours; extensive problem solving. Prerequisite: Mathematics 21D, 22B, Physics 9D. Radioactive decay, interaction of radiation with matter, radionuclide production, radiation detection, digital autoradiography, gamma camera imaging, single photon emission computed tomography, positron emission tomography and applications of these techniques in biology and medicine.—III. (III.) Cherry
(new course—eff. spring 02)

Engineering: Civil and Environmental (ECI)**138. Earthquake Loads on Structures (4)**

Lecture—4 hours. Prerequisite: Engineering 102, course 130 or 131. Determination of loads on structures due to earthquakes. Methods of estimating equivalent static lateral forces; response spectrum and time history analysis. Concepts of mass, damping and stiffness for typical structures. Design for inelastic behavior. Numerical solutions and Code requirements.—II. (II.) Kunnath
(change in existing course—eff. winter 03)

146. Water Resources Simulation (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: Engineering 103; Applied Science Engineering 115, course 141, 142 recommended. Computer simulation techniques in the analysis, design and operation of surface water systems; modeling concepts and practices with application to surface runoff; water quality in rivers and streams and dispersion of contaminants in water bodies. GE credit: Wrt.—II. (II.) Younis
(change in existing course—eff. winter 03)

211. Advanced Matrix Structural Analysis (4)

Lecture—4 hours. Prerequisite: course 131. Analysis of complex frameworks by the displacement method; treatment of tapered beams, curved beams, and beams on elastic foundations; partially rigid connections; geometric and material nonlinearities; buckling; flexibility-based formulations; FEM-software for nonlinear analysis of structures.—II. (II.) Kunnath
(change in existing course—eff. winter 03)

212A. Finite Element Procedures in Applied Mechanics (4)

Lecture—4 hours. Prerequisite: Applied Science Engineering 115 or Mathematics 128A, Mathematics 128B (may be taken concurrently). Weighted-residual and Rayleigh-Ritz methods. Weak/variational formulation and development of discrete equations using finite element approximations. Application to one- and two-dimensional problems (heat conduction).—II. (II.) Sukumar
(change in existing course—eff. winter 03)

212B. Finite Elements: Application to Linear and Non-Linear Structural Mechanics Problems (4)

Lecture—4 hours. Prerequisite: course 212A. Application to linear and nonlinear structural mechanics problems. Linear elasticity, weak form, and finite element approximation. Incompressible media problems. Non-linear problems with material nonlinearity.—III. (III.) Sukumar
(change in existing course—eff. winter 03)

213. Analysis of Structures Subjected to Dynamic Loads (4)

Lecture—4 hours. Prerequisite: courses 138 and 211. Analysis of structures subjected to earthquake, wind and blast loading; distributed, consistent and lumped mass techniques; computer implementation; nonlinear response spectrum; frequency and time domain analysis; seismic protection of structures; numerical methods in linear and nonlinear structural dynamics.—II. (II.) Kunnath
(change in existing course—eff. winter 03)

Engineering: Computer Science (ECS)**201A. Advanced Computer Architecture (4)**

Lecture—3 hours; term paper. Prerequisite: course 154B or Electrical and Computer Engineering 170, course 150. Modern research topics and methods in computer architecture. Design implications of memory latency and bandwidth limitations. Performance enhancement via within-processor and between-processor parallelism. Term project involving student-proposed extensions/modifications of work in the research literature. Not open for credit to students who have completed course 250A.—I. (I.) Farrens
(new course—eff. fall 02)

201B. High-Performance Uniprocessing (4)

Lecture—3 hours; term paper. Prerequisite: course 201A. Maximizing uniprocessor performance. Barriers to high performance; solutions to the problems; historical and current processor designs. Not open for credit to students who have completed course 250B.—II. (II.) Farrens
(new course—eff. fall 02)

203. Novel Computing Technologies (4)

Lecture—3 hours; project. Prerequisite: course 201A. Novel computing technologies that could revolutionize computer architecture. Quantum computing technologies, including algorithms, devices, and fault tolerance. A survey of other unconventional technologies including nanoscale electronics, MEMS devices, biological devices, and nanotechnology. Offered in alternate years.—II. Chong
(new course—eff. fall 02)

220. Theory of Computation (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 120, 122A. Time and space complexity classes. Reductions, completeness, and the role of randomness. Logic and undecidability.—III. (III.) Rogaway
(change in existing course—eff. fall 02)

222B. Advanced Design and Analysis of Algorithms (4)

Lecture—3 hours; project. Prerequisite: course 222A. Advanced topics in complexity theory. Problem classification. The classes P, NP, P-space, co-NP. Matching and network flow algorithms. Matrix multiplication. Approximation algorithms.—II. (II.) Gusfield, Franklin, Martel, Rogaway
(change in existing course—eff. fall 02)

223. Parallel Algorithms (4)

Laboratory/discussion—3 hours; project. Prerequisite: course 222A. Models of parallel computer systems including PRAMs, loosely coupled systems and interconnection networks. Parallel algorithms for classical problems and general techniques for their design and analysis. Proving lower bounds on parallel computation in several settings.—II. (II.) Martel
(change in existing course—eff. fall 02)

228. Cryptography for E-Commerce (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 222A. Cryptographic primitives and protocols of importance to e-commerce, present and future, including content distribution mechanisms, payment mechanisms, pricing mechanisms, anonymity and privacy mechanisms, fair exchange mechanisms. Offered in alternate years.—II. Franklin
(new course—eff. fall 02)

230. Applied Numerical Linear Algebra (4)

Laboratory/discussion—3 hours; discussion—1 hour. Prerequisite: course 130. Numerical linear algebra (NLA) with emphasis on applications in engineered systems; matrix factorizations; perturbation and rounding error analyses of fundamental NLA algorithms. Offered in alternate years.—I. Laub, Bai
(new course—eff. fall 02)

231. Large-Scale Scientific Computation (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 130. Algorithms and techniques for large-scale scientific computation, including basics for high performance computing, iterative methods, discrete approximation, fast Fourier transform, Poisson solvers, particle methods, spectral graph partition and its applications. Offered in alternate years.—II. Bai, Laub
(new course—eff. fall 02)

236. Computer Security: Intrusion Detection Based Approach (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 150; course 153 recommended. Concepts of intrusion detection, anomaly detection based on machine learning, signature-based detection using pattern matching, automated response to attacks using artificial intelligence planning, tracing intruders based on principal component analysis, security policy languages. Offered in alternate years.—I. Levitt
(new course—eff. fall 02)

250A. Advanced Computer Architecture (4)

(cancelled course—eff. fall 02)

250B. High-Performance Uniprocessing (3)

(cancelled course—eff. fall 02)

252. Computer Networks (4)

Lecture—3 hours; laboratory—3 hours. Prerequisite: course 152B. Internet protocol based computer networks applications, transport, network layer protocols. High speed LAN technologies: Ethernet, Asynchronous Transfer Mode (ATM). Delay models in data networks: analysis of multiaccess techniques in polling, ring, random access networks. Multimedia applications requirements and design.—II. (II.) Mukherjee, Mohapatra, Ghosal
(change in existing course—eff. fall 02)

256B. High Speed Networks (4)

(cancelled course—eff. fall 02)

257. Mobile and Wireless Networks (4)

Lecture—3 hours; independent study—1 hour. Prerequisite: course 252. Fundamental techniques in design of second generation wireless networks: cellular network and protocols, medium access techniques, handoff control, signaling and mobility management, wireless data works, Internet mobility and Personal Communication Services (PCS). Third generation wideband systems, novel technologies, adhoc networks. Offered in alternate years.—I. Ghosal, Mohapatra, Mukherjee
(new course—eff. fall 02)

Engineering: Electrical and Computer (EEC)**239. Optical Communications and Networking (4)**

(cancelled course—eff. fall 02)

239A. Optical Fiber Communications Technologies (4)

Lecture—4 hours. Prerequisite: course 130B. Physical layer issues for component and system technologies in optical fiber networks. Sources of physical layer impairments and limitations in network scalability. Enabling technologies for wavelength-division-multiplexing and time-division-multiplexing networks. Optical amplifiers and their impact in optical networks (signal-to-noise ratio, gain-equalization, and cascability).—I. (I.) Yoo
(new course—eff. fall 02)

239B. Optical Fiber Communications Systems and Networking (4)

Lecture—4 hours. Prerequisite: course 239A. Physical layer optical communications systems in network architectures and protocols. Optical systems design and integration using optical component technologies. Comparison of wavelength routed WDM, TDM, and NGI systems and networks. Case studies of next generation technologies. Offered in alternate years.—II. Yoo
(new course—eff. winter 03)

282. Hardware Software Codesign (3)

Lecture—2 hours; discussion—1 hour. Prerequisite: course 170, 180B. Specification and design of embedded systems; modeling and performance estimation; hardware/software partitioning; co-simulation; design re-use; platform-based design; reconfigurable computing.—III. (III.) Akella
(change in existing course—eff. spring 03)

Engineering: Mechanical and Aeronautical (MAE)**242. Stability of Thin-Walled Structures (4)**

Lecture—4 hours. Prerequisite: Engineering 104 or the equivalent. Static stability of thin-walled aerospace structures treated from both theoretical and practical design point of view. Both monolithic and composite construction are considered. Among the subjects treated are buckling of stiffened panels, shells and thin-walled beams, experimental methods and failure/crippling processes. Offered in alternate years.—III. Rehfield
(change in existing course—eff. fall 02)

Environmental Science and Policy (ESP)**102. Cultural Ecology (4)**

Lecture—3 hours; discussion—1 hour. Prerequisite: one lower division course in the social sciences, upper division standing. Comparative survey of the interaction between diverse human cultural systems and the environment. Primary emphasis given to people in rural and relatively undeveloped environments as a basis for interpreting complex environments. Not open for credit to students who have completed course 133. (Former course 133.) (Same course as Anthropology 102.) GE credit: SocSci, Div, Wrt.—III. (III.) Orlove
(change in existing course—eff. spring 03)

133. Cultural Ecology (4)

(cancelled course—eff. spring 03)

Environmental Toxicology (ETX)**278. Molecular Techniques (3)**

Lecture—3 hours. Prerequisite: graduate standing or consent of instructor. Recombinant DNA technology and its applications. (Same course as Forensic Science 278.) Offered in alternate years.—(III.) Denison, Rice
(new course—eff. spring 02)

Exercise Science (EXS)**220. Research Topics in Biomechanics (3)**

(cancelled course—eff. fall 02)

Forensic Science (FOR)**278. Molecular Techniques (3)**

Lecture—3 hours. Prerequisite: graduate standing or consent of instructor. Recombinant DNA technology and its applications. (Same course as Environmental Toxicology 278.) Offered in alternate years.—(III.) Denison, Rice
(new course—eff. spring 02)

289. Survey in Forensic Science (3)

Lecture—3 hours. Analytical methods in contemporary forensic science. Clandestine laboratories in California, crime scene management, examination and analysis of human hair, forensic ballistics/trajectory reconstruction, shoe/tire print impressions, serial number restoration, forensic aspects of alcohol impairment, blood-stain pattern interpretation, microscopy of building materials, biological aspect of forensic science. May be repeated for credit when topic differs.—I, II, III. (I, II, III.) Howitt
(new course—eff. fall 02)

298. Group Study in Forensic Science (1-5)

(S/U grading only.)
(new course—eff. fall 02)

299. Research in Forensic Science (1-12)

Prerequisite: consent of instructor. (S/U grading only.)
(new course—eff. fall 02)

Freshman Seminar (FRS)**1A-Z. Freshman Seminar (1-2)**

Seminar—1-2.5 hours. The investigation of a special topic through shared readings, discussions, written assignments, term papers, and special activities (such as fieldwork, site visits, laboratory work, etc.). Emphasis upon student participation in learning.—I, II, III. (I, II, III.)
(change in existing course—eff. fall 02)

Genetics (GGG)**201A. Advanced Genetic Analysis (5)**

Lecture/discussion—5 hours. Prerequisite: Biological Sciences 101, Statistics 100 or the equivalent, graduate standing. Fundamentals of genetic analysis and chromosome structure using model organisms including mutation, transmission, complementation, suppression, and enhancement as well as epigenetic phenomena at the whole organism and molecular levels.—III. (III.)
(change in existing course—eff. fall 02)

Geology (GEL)**1. The Earth (4)**

Lecture—3 hours; discussion—1 hour. Introduction to the study of the Earth. Earth's physical and chemical structure; internal and surface processes that mold the Earth; geological hazards and resources. Not open for credit to students who have completed course 50. Only 2 units of credit to students who have completed course 2. GE credit: SciEng.—I, II, III. (I, II, III.) Cowen, Versoub
(change in existing course—eff. fall 02)

2. The Blue Planet: Introduction to Earth Science (3)

Lecture—3 hours. Study of the solid and fluid earth and its place in the solar system. Holistic examination of how the solid earth interacts with the atmosphere, hydrosphere, biosphere, and extraterrestrial environment. Not open for credit to students who have completed course 50. Only 2 units of credit to students who have completed course 1. GE credit: SciEng.—I. (I.) McClain (new course—eff. fall 02)

2G. The Blue Planet: Introduction to Earth Science Discussion (1)

Discussion—1 hour. Prerequisite: course 2 concurrently. Small group discussion and preparation of short papers for course 2. GE credit with concurrent enrollment in course 2: Wrt.—I. (I.) McClain (new course—eff. fall 02)

German (GER)**106. History of the German Language (4)**

(cancelled course—eff. fall 02)

108. Varieties of Contemporary German (4)

(cancelled course—eff. fall 02)

History (HIS)**178. Race in America, 1492-1865 (5)**

(cancelled course—eff. fall 02)

178A. Race in America, 1492-1865 (4)

Lecture—4 hours. Prerequisite: course 17A or 17B or 177A or 177B. Racial formation during the Age of Discovery, the Colonial Period, Early National and Antebellum periods up to the Civil War. Not open for credit to students who have completed course 178. Offered in alternate years. GE credit: ArtHum, Div, Wrt.—III. Walker (new course—eff. spring 03)

178B. Race in America 1865-present (4)

Lecture/discussion—4 hours. Prerequisite: course 17A or 17B or 177A or 177B. Racial formation in the Post Civil War United States from 1860 to the present. Offered in alternate years. GE credit: ArtHum, Div, Wrt.—II. Walker (new course—eff. winter 03)

Hydrologic Science (HYD)**205. Continuum Mechanics of Natural Systems (4)**

Lecture/discussion—4 hours. Prerequisite: Mathematics 21D and 22B, Physics 9B. Continuum mechanics of static and dynamic air, water, earth and biological systems using hydraulic, heat and electrical conductivity; diffusivity; dispersion; strain; stress; deformation gradient; velocity gradient; stretch and spin tensors. (Same course as Biological Systems Engineering 205.)—I. (I.) Wallender (new course—eff. fall 02)

Immunology (IMM)**294A. Comparative Clinical Immunology (4)**

Lecture/discussion—4 hours. Prerequisite: Pathology, Microbiology, and Immunology 126 or consent of instructor. Clinical immunology in animals and man. Pathogenesis of representative infectious diseases, hypersensitive reactions, and autoimmunity. Emphasis on specific and nonspecific immune effector mechanisms to combat infections or mediate pathology. Offered in alternate years.—(III.) McKisic (new course—eff. spring 02)

295. Cytokines (3)

Lecture—2 hours; discussion—1 hour. Prerequisite: course 293 or consent of instructor. Cytokines and their involvement in human and animal physiology/disease, molecular mechanisms and receptor signaling. Immune and non-immune actions. Overlapping/redundant functions (referred to as the “cytokine network”). Offered in alternate years.—III. Benton (change in existing course—eff. spring 03)

International Commercial Law (ICL)**216. International Business Transactions (2)**

Lecture/discussion—20 hours. Prerequisite: course 201 and law school education or the equivalent. Legal problems arising from international business transactions. Focus on international sales contracts, choice of law, forum selection clauses, letters of credit, transfers of technology, regulation of bribery, development of joint ventures, repatriation of profits, foreign exchange problems, and national efforts to control imports. Offered in alternate years.—Chander (change in existing course—eff. special session 2002)

249. Comparative Law (1)

Lecture/discussion—10 hours. Prerequisite: course 201 and law school education or the equivalent. A comparative study of the development of schools of legal thought, chiefly Common law systems and Civil law traditions. Attention to the historical reasons for their divergence, contemporary approaches to universal problems such as succession, torts, and contracts, the cross-fertilization of laws and difficulties commonly associated with importing foreign law into new territory. Offered in alternate years.—Johnson (change in existing course—eff. special session 2002)

270. Financing International Transactions (3)

Lecture/discussion—20 hours. Prerequisite: course 201 and law school education or the equivalent. How capital is raised in international markets. Investment strategies for U.S. markets. Taxation of financial investments, international currency regulation, and assessing rates of return on international investments. Offered in alternate years.—Simmons (change in existing course—eff. special session 2002)

290A-290B. American Legal System Research Seminar (1)

Seminar—5 hours. Prerequisite: course 201 and law school education or the equivalent. The American legal system and its structure. Methods of conducting legal research in the United States. Presenting the results of legal research. Attention to analysis, synthesis, organization, and editing techniques common to legal writing. May be repeated once for credit. (Deferred grading only, pending completion of sequence. S/U grading only.) (new course—eff. special session 02)

Linguistics (LIN)**7. Computational Linguistics (4)**

Lecture—3 hours; discussion—1 hour. Understanding the nature of language through computer modeling of linguistic abilities. Relationships between human cognition and computer representations of cognitive processing. Offered in alternate years. GE credit: SocSci.—II. Ojeda, Orgun (new course—eff. winter 03)

50. Languages of the World (4)

(cancelled course—eff. fall 02)

150. Languages of the World (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 1 or Anthropology 4. Survey of the world's languages, their geographical distribution and classification, both genetic and typological. Illustrative descriptions of several major languages from different geographical areas; pidgins and creoles, lingua francas and other languages of widespread use. Not open for credit to students who have completed course 50. GE credit: ArtHum or SocSci, Wrt.—III. (III.) Benware (new course—eff. fall 02)

Mathematics (MAT)**235A-235B-235C. Probability Theory (4-4-4)**

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: course 127C and 131 or Statistics 131A or consent of instructor. Measure-theoretic foundations, abstract integration, independence, laws of large numbers, characteristic functions, central limit theorems. Weak convergence in metric spaces, Brownian motion, invariance principle. Conditional expectation. Topics selected from martingales, Markov chains, ergodic theory. (Same course as Statistics 235A-235B-235C.)—I-II-III. (I-II-III.) (change in existing course—eff. fall 02)

Medicine: Medical Sciences (MDS)**400D. Application of Medical Principles (1)**

Discussion—2 hours. Prerequisite: approval of Committee on Student Progress. Application of multidisciplinary basic, social and clinical science concepts to clinical cases in small group discussions facilitated by medical school faculty. Evaluation of professional competencies, attitudes, and skills needed in the practice of clinical medicine. (Deferred grading only, pending completion of sequence. P/F grading only.)—IV. (IV.) Stevenson (new course—eff. summer 02)

430A-430B-430C-430D. Applications of Medical Principles (2-2-2-2)

Discussion—3 hours. Prerequisite: approval of the School of Medicine Committee on Student Progress. Application of multidisciplinary basic, social and clinical science concepts to clinical cases in small group discussions facilitated by medical school faculty. Evaluation of professional competencies, attitudes and skills needed in the practice of clinical medicine. (Deferred grading only, pending completion of sequence. H/P/F grading only.)—IV-I-II-III. Stevenson, Wilkes (change in existing courses—eff. summer 2002-spring 2003)

Medicine: Dermatology (DER)**420. Integumentary System (2)**

Lecture/discussion—4 hours. Prerequisite: approval of School of Medicine Committee on Student Progress. Cell biology, pathology, and physical diagnosis of the skin. Recognition of normal variations, and common or important dermatoses. Patient demonstrations of select conditions. (P/F grading only.)—IV. (IV.) Huntley, Isseroff (change in existing course—eff. summer 02)

Medicine: Epidemiology and Preventive Medicine (EPP)**175W. Health Policy and Health Politics (4)**

Seminar—3 hours; extensive writing or discussion—1 hour. Following the model of a Congressional subcommittee, identification of four salient health policy issues for study, research, and development of model policies to address them. (Same course as UC Davis Washington Center 175.) GE credit: SocSci, Wrt.—III. (III.) Wintemute (new course—eff. spring 02)

481. Senior Partnership (1-3)

(cancelled course—eff. fall 02)

498. Study in Community and International Health (1-6)

Prerequisite: medical student in good standing and consent of instructor. Study and experience for medical students in areas in community and international health. May be repeated for credit. (H/P/F grading only.) (change in existing course—eff. spring 02)

Medicine: Family and Community Medicine (FAP)**400B. Introduction to Patient Evaluation (2)**

Discussion—2 hours; clinical activity—1 hour. Prerequisite: consent of committee on student progress. Basic physical examination skills through small group interactions; continuity preceptorship. (Deferred grading only, pending completion of sequence. P/F grading only.)—II. (II.) Jerant, Callahan (change in existing course—eff. winter 02)

421. Understanding the Healthcare System of the USA (1)

(cancelled course—eff. fall 02)

440. Ambulatory Care Clerkship (3-12)

(cancelled course—eff. fall 02)

444. Advanced Preceptorship in Family Medicine (3-18)

Clinical activity—40 hours. Prerequisite: completion of third-year primary care plus clerkship or consent of instructor. Preceptorships with primary care physicians in a variety of settings. Acquisition skills to evaluate and develop a treatment plan for patients with common medical problems seen by primary care physicians in an out patient setting. May be repeated up to 18 units of credit. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Morgan (new course—eff. fall 02)

462. Advanced Preceptorship in Family Medicine (3-18)

(cancelled course—eff. fall 02)

463. Selected Readings in Family Practice (1-9)

(cancelled course—eff. fall 02)

468. International Preceptorship (3-12)

Clinical activity—40 hours. Prerequisite: medical student with consent of instructor. Preceptorship with a family practitioner in a foreign country (arranged by student contact or with assistance of the Family and Community Medicine Department.) Participate in clinical activities, analyze and report characteristics of the practice. May be repeated up to 12 units of credit. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) (change in existing course—eff. fall 02)

469. Clerkship in Family Practice Residency (3-12)

Clinical activity—40 hours. Prerequisite: completion of third year of medical school or consent of instructor. Comprehensive primary medical care of patients in a family practice hospital or residency. Usually includes inpatient and outpatient experience. May be repeated up to 12 units of credit. (H/P/F grading only.)—I, II, III, IV. (I, II, III, IV.) (change in existing course—eff. fall 02)

480. Insights in Family Practice (1-3)

(cancelled course—eff. fall 02)

488. Selected Studies in Family Practice (1-9)

Prerequisite: medical students with consent of instructor. Assigned readings in family practice to increase understanding on selected topics relating to family medicine and primary health care delivery; visits to and written analysis of selected health care programs; and/or exposure to family practice with a community physician preceptor who is a member of the clinical faculty. May be repeated up to 9 units of credit.—I, II, III, IV. (I, II, III, IV.)
(new course—eff. fall 02)

498. Directed Group Study in Family Practice (1-9)

(cancelled course—eff. fall 02)

Medicine: Infectious Diseases (IDI)**211. Epidemiology and Prevention of Infectious Diseases (3)**

Lecture—2 hours; discussion—1 hour. Prerequisite: Epidemiology 205B, 207 or Internal Medicine 421. Infectious disease epidemiology and prevention, with equal emphasis on human and veterinary diseases. Major categories of infectious diseases by mode of transmission.—III. (III.) Flynn, Gibson
(new course—eff. spring 02)

Medicine: Internal Medicine—Rheumatology-Allergy**281. Immunology and Immunopathology (4)**

(cancelled course—eff. summer 02)

Medicine: Internal Medicine—Nephrology (NEP)**299. Nephrology Research (1-12)**

Prerequisite: consent of instructor. (S/U grading only.)
(new course—eff. summer 02)

Medicine: Microbiology (MMI)**480B. Pathogenic Microbiology (3.5)**

Lecture—4 hours; laboratory—3 hours. Prerequisite: approval of the School of Medicine Committee on Student Progress. The biology of pathogenic microorganisms with emphasis on their role in human disease. May be repeated for credit. (P/F grading only.)—IV. (IV.) Beaman
(change in existing course—eff. summer 02)

480C. Pathogenic Microbiology (2)

Lecture/laboratory—5 hours. Prerequisite: approval of the School of Medicine Committee on Student Progress. The biology of pathogenic microorganisms with emphasis on their role in human disease. (P/F grading only.)—I. (I.) Dandekar
(change in existing course—eff. fall 02)

Medicine: Neurology (NEU)**498NE. Group Study in Neurology (1-6)**

Prerequisite: medical students with consent of instructor. Directed readings and discussions with a comprehensive written examination at the end of course. (P/F grading only.)—I, II, III, IV. (I, II, III, IV.) Jagust
(new course—eff. summer 02)

Medicine and Epidemiology (VME)**410. Husbandry, Feeding and Management of Captive Animals (2)**

Lecture—20 sessions. Prerequisite: first-year standing in the School of Veterinary Medicine or consent of instructor. Introduction of management and husbandry dynamics as a prerequisite for preventive health programs in zoos, aquaria, vivaria, and other environments for exotic pets and wild animals.—III. (III.) Tell
(change in existing course—eff. winter 02)

411. Laboratory Animal Medicine (2)

Lecture—20 sessions. Prerequisite: third-year standing in the School of Veterinary Medicine or consent of instructor. Diagnosis, treatment and prevention of common diseases and medical problems in rabbits and rodents kept as pets and used in research (mice, rats, guinea pigs, hamsters, and gerbils). Useful approaches to anesthesia and to common soft tissue surgeries in these species. Applicable in both private practice and laboratory animal facilities.—II. (II.) Eisele
(change in existing course—eff. winter 02)

415. Management and Diseases of Captive Wildlife (2)

Lecture—20 sessions. Prerequisite: second- or third year standing in the School of Veterinary Medicine or consent of instructor. Introduction to the roles of a zoological veterinarian and the most common topics encountered. Emphasis on taxonomy, husbandry, preventive medicine and the most common diseases seen in common captive wildlife species.—I. (I.) Wack
(change in existing course—eff. fall 02)

450. Small Animal Clinical Immunology (2.2)

Lecture—16 sessions; discussion—6 sessions. Prerequisite: second- or third-year standing in the School of Veterinary Medicine or consent of instructor. Comprehensive discussion of the basic mechanisms of immunologic diseases in small companion animals and a description of common immunologic diseases, including clinical presentation, diagnosis and treatment. (S/U grading only.)—III. (III.) Pedersen
(change in existing course—eff. spring 02)

463A. Food Animal Medicine, Level I (3.4)

Lecture—34 sessions. Prerequisite: second-year standing in the School of Veterinary Medicine. Fundamentals of food animal medicine presented in a lecture format with integrated case discussion to illustrate the context and application of material presented and to promote development of problem-solving skills.—III. (III.) Smith
(change in existing course—eff. spring 02)

463B. Food Animal Medicine, Level I (3.4)

Lecture—34 sessions. Prerequisite: course 463A or consent of instructor, third-year standing in the School of Veterinary Medicine. Fundamentals of food animal medicine with integrated case discussions to illustrate the context and application of material presented and to promote development of problem-solving skills.—I, II. (I, II.) George
(change in existing course—eff. fall 02)

464A. Equine Medicine, Level I (3.4)

Lecture—33 sessions; laboratory—1 session. Prerequisite: second-year standing in the School of Veterinary Medicine or consent of instructor. The etiology, pathophysiology, epidemiology, clinical presentation, diagnostic evaluation, treatment, presentation, and control of important infectious and non-infectious diseases of horses. Emphasis on problem-based approach to differential diagnosis.—III. (III.) Spier
(change in existing course—eff. spring 02)

465. Advanced Equine Medicine, Level II (3.6)

Lecture—36 sessions. Prerequisite: third-year standing in the School of Veterinary Medicine, course 464A, 464B, 464C or consent of instructor. An approach to commonly encountered problems of horses held as individuals and farm settings. Development of problem solving skills related to the medical management of horses and their problems.—III. (III.) Madigan
(change in existing course—eff. spring 02)

466. Equine Critical Care (2)

Lecture—10 sessions; discussion—10 sessions. Prerequisite: course 464A, 464B, 464C, or consent of instructor, third-year standing in the School of Veterinary Medicine. Focus on common equine emergencies and their initial life-support management strategies. Rational approach to diagnosis and management of emergency and critically ill equine patients in clinical practice. Pathophysiology of Systemic Inflammatory Response Syndrome (SIRS), Multiple Organ Dysfunction Syndrome (MODS), and critical illness.—III. (III.) Magdesian
(new course—eff. spring 02)

481. Clinical Rounds (1)

Discussion—10 sessions. Prerequisite: first- or second-year standing in the School of Veterinary Medicine or consent of instructor. Discussion of selected small and large animal cases from the Veterinary Medical Teaching Hospital. May be repeated once for credit. (S/U grading only.)—I, II, III. (I, II, III.) Smith
(new course—eff. fall 02)

481A-481B-481C Clinical Rounds (1-1-1)

(cancelled course—eff. fall 02)

Molecular Biosciences (VMB)**205A. Intermediary Metabolism of Animals (4)**

(cancelled course—eff. fall 02)

205B. Intermediary Metabolism of Animals (3)

(cancelled course—eff. winter 03)

475. Diagnosis and Treatment of Food Animal and Equine Poisoning (2)

Lecture—20 sessions. Prerequisite: third-year standing in the School of Veterinary Medicine. Clinical systematic approach to poisoning problems in livestock, horses and other ungulate stock emphasizing diagnosis and treatment, including poisonous plants.—III. (III.) Mount
(change in existing course—eff. spring 02)

485. Advanced Clinical Nutrition (2)

Lecture—14 sessions; laboratory—1 session; discussion—4 sessions; project. Prerequisite: third-year standing in the School of Veterinary Medicine or consent of instructor. Advanced training in the principles and application of small animal clinical nutrition. (S/U grading only.)—I. (I.) Fascetti
(change in existing course—eff. fall 02)

Music (MUS)**192. Internship in Music (1-4)**

Internship—3-12 hours. Prerequisite: music major, consent of instructor and department chairperson. Internship outside the university related to music. May be repeated for credit up to 8 units. (P/NP grading only.)
(new course—eff. winter 03)

Nutrition (NUT)**101. Introduction to Nutrition and Metabolism (5)**

(cancelled course—eff. fall 02)

111. Human Nutrition (4)

(cancelled course—eff. fall 02)

111AV. Introduction to Nutrition and Metabolism (3)

World Wide Web Virtual Lecture—3 hours. Prerequisite: Chemistry 8B, Neurobiology, Physiology, and Behavior 101 or the equivalent. Introduction to metabolism of protein, fat and carbohydrate; the biological role of vitamins and minerals; nutrient requirements during the life cycle; assessment of dietary intake and nutritional status. Not open for credit to students who have completed course 101.—III. (III.) McDonald
(new course—eff. spring 03)

111B. Recommendations and Standards for Human Nutrition (2)

Lecture—2 hours. Prerequisite: Chemistry 8B, Neurobiology, Physiology, and Behavior 101 or the equivalent. Critical analysis of the development of nutritional recommendations for humans. Topics include: history of modern recommendations, development of the Recommended Dietary Allowance (RDA) and other food guides; the Dietary Reference Intakes (DRI); administrative structure of regulatory agencies pertinent to nutrition recommendations; introduction to scientific methods used to determine the recommendations; food labeling laws; nutrition recommendations in other countries and cultures. Not open for credit to students who have completed course 111.—III. (III.) McDonald
(new course—eff. spring 03)

Pathology, Microbiology and Immunology (PMI)**476. Comparative Pathology of Non-Mammalian Vertebrates (2)**

Lecture—20 sessions. Prerequisite: Medicine and Epidemiology 410, 487. Mechanisms of disease in non-mammalian vertebrates (fish, amphibians, reptiles, and birds) that differ from mammalian species including tissue response to injury, repair and neoplasia. Gross lesions of common diseases affecting non-mammalian vertebrates.—III. (III.) Terio
(change in existing course—eff. spring 02)

Physical Education (PHE)**2. Principles of Basic Exercise Conditioning (2)**

(cancelled course—eff. fall 02)

99. Special Study for Undergraduates (1-5)

(P/NP grading only.)
(new course—eff. fall 02)

131. Physical Activity and the Disabled (4)

Lecture—3 hours; laboratory—3 hours. The study of the diverse and complex nature of individuals with disabilities and how they adapt to their disabilities in daily living. Integration of individuals with disabilities into the community, schools, and physical activity and recreational programs. Not open for credit to students who have completed Exercise Biology 131.—I. (I.) Vochatzer
(new course—eff. fall 02)

145. Administration of Health/Fitness Programs (2)

(cancelled course—eff. fall 02)

199. Special Study for Advanced Undergraduates (1-5)

Prerequisite: consent of instructor. (P/NP grading only.)
(new course—eff. fall 02)

Plant Pathology (PLP)**155. Ecology of Forest Diseases (3)**

Lecture—3 hours. Prerequisite: Biological Sciences 1A, 1B, 1C. Tree diseases and their role in temperate and tropical forest ecosystems. Impacts of both native and exotic pathogens. Interactions between forest pathogens and insects. Approaches to management and regulation. One field trip is required. Offered in alternate years.—III. Rizzo (new course—eff. spring 03)

Population Biology (PBG)**220. Spatio-Temporal Ecology (2)**

Lecture/discussion—2 hours. Prerequisite: course 200B or Ecology 204 or Evolution and Ecology 104 or Environmental Science and Policy 121 or consent of instructor. Spatio-temporal ecological theory focusing on population persistence and stability, predator-prey and host-parasitoid interactions, species coexistence and diversity maintenance, including effects of environmental variation, spatial and temporal scale, life-history traits and nonlinear dynamics. Topics vary. (Same course as Ecology 220.) May be repeated once for credit. (S/U grading only.)—II. Chesson (change in existing course—eff. winter 03)

Population Health and Reproduction (PHR)**397T. Tutoring in Veterinary Population Health and Reproduction (1-5)**

(cancelled course—eff. summer 02)

Psychology (PSC)**175. Genius, Creativity, and Leadership (4)**

Lecture—3 hours; term paper. Prerequisite: course 1 and 41 or the equivalent or consent of instructor. The phenomenon of genius is examined from a diversity of theoretical, methodological, and disciplinary perspectives, with an emphasis on outstanding creativity and leadership in art, music, literature, philosophy, science, war, and politics. GE credit: SocSci, Wrt.—I, III. (I, III.) Simonton (change in existing course—eff. fall 02)

Religious Studies (RST)**10. Introduction to Religious Studies (2)**

(cancelled course—eff. winter 03)

124. Topics in Judaism (4)

Lecture—3 hours; term paper. Prerequisite: course 23. Examination of selected aspects of Jewish life, religion, or literature. Potential topics include: Jewish Perspectives on Jesus; The Golem: History and Legend; Sexuality and Gender in Late Antique Judaism and Early Christianity. May be repeated for credit when topic differs.—II. (II.) (change in existing course—eff. fall 02)

125. Dead Sea Scrolls, Apocrypha, and Pseudepigrapha (4)

Lecture/discussion—3 hours; term paper. Prerequisite: course 21 or 40 or consent of instructor. Survey of the Dead Sea Scrolls, apocryphal and pseudepigraphical writings of Judaism and Christianity and their historical, social, and religious importance. GE credit: Wrt.—II. (II.) Janowitz (change in existing course—eff. winter 03)

130. Topics in Religious Studies (4)

Lecture/discussion—3 hours; term paper. Prerequisite: one from course 1, 2, 3A, 3B, or 3C or consent of instructor. Thematic study of a phenomenon in more than one religious tradition or of the relationship between religion and another cultural phenomenon. Topics may include archeology and the Bible, women and religion, religion and violence. May be repeated for credit when topic differs.—II, III. (II, III.)

(change in existing course—eff. fall 02)

135. The Bible and Film (4)

Lecture—2 hours; term paper; film-viewing—3 hours. Prerequisite: Humanities 10 recommended. Examination of the uses of the Judeo-Christian scriptures in film. Topics include dramatic depictions of biblical stories, the tension between science and religion, allegorical treatments of biblical themes, and the problems of religious conviction.—III. (III.) Hurst

(new course—eff. winter 03)

Science and Society (SAS)**130. Contemporary Leadership (4)**

Lecture/discussion—3 hours; discussion—1 hour. Leadership, including issues, skills, and practices as they relate to individuals, organizations, diverse social settings and communities. Written and verbal communications, styles for collaborative work, and ethics. (P/NP grading only.)—I, II, III. (I, II, III.) King

(new course—eff. fall 02)

Spanish (SPA)**113. Spanish Pronunciation (4)**

Lecture—3 hours; term paper. Prerequisite: Linguistics 1 and course 24 or 33. The sound structure of modern Spanish; theoretical analysis of selected problems in pronunciation. Strongly recommended for prospective teachers of Spanish.—I, II, III. (I, II, III.) Bradley

(change in existing course—eff. fall 02)

Statistics (STA)**222. Biostatistics: Survival Analysis (4)**

Lecture—3 hours; discussion/laboratory—1 hour. Prerequisite: course 131C. Incomplete data; life tables; nonparametric methods; parametric methods; accelerated failure time models; proportional hazards models; partial likelihood; advanced topics. (Same course as Biostatistics 222.)—I. (I.)

(change in existing course—eff. fall 02)

223. Biostatistics: Generalized Linear Models (4)

Lecture—3 hours; discussion/laboratory—1 hour. Prerequisite: course 131C. Likelihood and linear regression; generalized linear model; Binomial regression; case-control studies; dose-response and bioassay; Poisson regression; Gamma regression; quasi-likelihood models; estimating equations; multivariate GLMs. (Same course as Biostatistics 223.)—II. (II.)

(change in existing course—eff. fall 02)

224. Biostatistics: Clinical Trials and Advanced Topics (4)

Lecture—3 hours; discussion/laboratory—1 hour. Prerequisite: course/Biostatistics 223. Clinical trials; sequential design; covariate adjustment; meta-analysis; applications of generalized linear models; longitudinal studies; random effects models; advanced topics. (Same course as Biostatistics 224.)—III. (III.)

(change in existing course—eff. fall 02)

235A-235B-235C. Probability Theory (4-4-4)

Lecture—3 hours; term paper or discussion—1 hour. Prerequisite: Mathematics 127C and 131 or course 131A or consent of instructor. Measure-theoretic foundations, abstract integration, independence, laws of large numbers, characteristic functions, central limit theorems. Weak convergence in metric spaces, Brownian motion, invariance principle. Conditional expectation. Topics selected from martingales, Markov chains, ergodic theory. (Same course as Mathematics 235A-235B-235C.)—I-II-III. (I-II-III.) (change in existing course—eff. fall 02)

252. Advanced Topics in Biostatistics (4)

Lecture—3 hours; discussion/laboratory—1 hour. Prerequisite: course 222, 223. Biostatistical methods and models selected from the following: genetics, bioinformatics and genomics; longitudinal or functional data; clinical trials and experimental design; analysis of environmental data; dose-response, nutrition and toxicology; survival analysis; observational studies and epidemiology; computer-intensive or Bayesian methods in biostatistics. May be repeated for credit with consent of adviser when topic differs. (Same course as Biostatistics 252.) Offered in alternate years.—III. (change in existing course—eff. fall 02)

UC Davis Washington Center (WAS)**175. Health Policy and Health Politics (4)**

Seminar—3 hours; extensive writing or discussion—1 hour. Following the model of a Congressional subcommittee, identification of four salient health policy issues for study, research, and development of model policies to address them. (Same course as Epidemiology and Preventive Medicine 175W.) GE credit: SocSci, Wrt.—III. (III.) Wintemute (new course—eff. spring 02)

187. Gun Violence (4)

Lecture/discussion—4 hours. Gun violence, viewed from the perspectives of criminology and public health. Topics include personal and societal contributing factors and critical assessment of potential solutions. Offered in alternate years.—(III.) Wintemute (new course—eff. spring 02)

Veterinary Medicine (VMD)**403. Physiological Chemistry (5.9)**

Lecture—52 sessions; discussion—7 sessions. Prerequisite: first-year standing in School of Veterinary Medicine. Biochemical principles used to analyze problems and to evaluate metabolic relationships important in animal health and pathophysiology. Integrative approach, emphasizing controls of major metabolic pathways, molecular basis of gene expression, tumorigenesis and signal transduction.—I. (I.) Hansen (change in existing course—eff. fall 02)

426. Principles of Veterinary Anesthesiology and Critical Patient Care (1.7)

Lecture—15 sessions; laboratory—2 sessions. Prerequisite: second-year standing in the School of Veterinary Medicine. Basic principles of veterinary anesthesiology including techniques of monitoring and management of animals under anesthesia.—III. (III.) Steffey (change in existing course—eff. spring 02)

446. Veterinary Reproduction (4)

Lecture—30 sessions; laboratory—10 sessions. Prerequisite: second-year standing in the School of Veterinary Medicine. Structural, functional, pathological, and clinical aspects of reproduction in animals.—II. (II.) Conley (change in existing course—eff. winter 03)

Viticulture and Enology (VEN)**3W. Introduction to Winemaking: Writing Experience (1)**

(cancelled course—eff. fall 02)

129. Instrumental Analysis of Must and Wine (4)

(cancelled course—eff. spring 02)

Women's Studies (WMS)**50. Introduction to Women and Gender Studies (4)**

Lecture—3 hours; discussion—1 hour. Interdisciplinary introduction surveys and integrates anthropological, artistic, cultural studies, historical, legal, literary, philosophical, psychological, scientific, and sociological perspectives on the study of gender and its relationship to race, sexuality, class, and other aspects of social experience. GE credit: ArtHum, Div, Wrt.—I, II, III. (I, II, III.) (change in existing course—eff. fall 02)

162. Feminist Film Theory and Criticism (4)

Lecture/discussion—3 hours; film-viewing—3 hours. Prerequisite: one course from the Women's Studies major and Humanities 10 or consent of instructor. Historical overview of and contemporary issues in feminist film theory, including representation, spectatorship, and cultural production. Film stars, women filmmakers, and the intersections of gender, race, sexuality, and class in films and their audiences. Offered in alternate years. GE credit: ArtHum, Div.—III. Projansky (change in existing course—eff. fall 02)

164. Topics in Gender and Cinematic Representation (4)

Lecture/discussion—3 hours; film-viewing—3 hours. Prerequisite: one course from the Women's Studies major and Humanities 10 or consent of instructor. Examination of a specific topic within the broad rubric of gender and cinema. Possible topics include Latinas in Hollywood; gender, nation, cinema; and gender and film genre. Topics vary. May be repeated twice for credit when topic differs. Offered in alternate years. GE credit: ArtHum, Div.—II. Projansky, Gopinath (change in existing course—eff. fall 02)

189. Special Topics in Women and Gender Studies (4)

Lecture/discussion—4 hours. Prerequisite: one course from the Women's Studies major. In-depth examination of a women's studies topic related to the research interests of the instructor. May be repeated once for credit when topic differs. Not offered every year.—I. Newton, Projansky (new course—eff. fall 02)