185. Women and Islamic Discourses (4)
Lecture/discussion—4 hours. Prerequisite: course 50 or comparable course. Introduction to the debates/discourses about women and Islam. Transformations in debates/discourses in colonial and postcolonial periods in the Middle East & South Asia. Comparative study of women's family, work, law, sexuality, religion, comportment, human rights, feminist and religious movements. (Same course as Middle East/South Asia Studies 150.) Offered irregularly. GE credit: ArtHum or SocSci | AH or SS, WRT.
186. Gender and Social Policy (4)
Lecture/discussion—3 hours; term paper. Role of gender in the creation of social policies, especially with respect to issues brought into the policy arena by contemporary feminism. Offered in alternate years. GE credit: SocSci, Div | ACGH, DD, SS, WE.
189. Special Topics in Critical Gender Studies (4)
Lecture/discussion—4 hours. In-depth examination of a women's studies topic related to the research interests of the instructor. May be repeated one time for credit when topic differs. Offered irregularly. GE credit: ArtHum or SocSci | AH or SS, WRT.
190. Senior Seminar (4)
Seminar—4 hours. Capstone course for senior Women's Studies majors, which focuses on current issues in feminism as they impact theory, public policy, and practice. GE credit: ArtHum or SocSci | ACGH, AH or SS, DD—S. (S.)
191. Capstone Seminar (4)
Seminar—4 hours. Revision, completion, and presentation of senior research or creative project. Creating a multimedia Web site for publishing research and creative projects. GE credit: ArtHum or SocSci, WRT | ACGH, AH or SS, DD, WE.
192. Internship in Women's Studies (1-12)
Internship—3-36 hours; written report. Prerequisite: completion of a minimum of 84 units and consent of instructor; enrollment dependent on availability of intern positions with priority to Women's Studies majors. Supervised internships and study in positions/institutional settings dealing with gender-related problems or issues, as for example, a women's center, affirmative action office, advertising agency, or social welfare agency. Final written report on internship experience. (P/NP grading only.)
193. Feminist Leadership Seminar (2)
Seminar—2 hours. Use feminist methods to critically reflect on the ethical, methodological and strategic aspects of an organization, project, campaign, movement or other social change initiative. May be repeated for credit. (P/NP grading only.) Offered irregularly. GE credit: ArtHum or SocSci | ACGH, AH or SS, DD, WE.
194HA. Senior Honors Project in Women's Studies (4-6)
Independent study—12 hours. Prerequisite: senior standing. Women’s Studies majors, and advisor’s approval. In consultation with an adviser, students complete a substantial research project or significant creative project. (Women's Studies topic. [Deferred grading only, pending completion of sequence.] GE credit: ArtHum or SocSci | ACGH, AH or SS, WRT.)
194HB. Senior Honors Project in Women's Studies (4-6)
Independent study—12 hours. Prerequisite: senior standing. Women’s Studies majors, and advisor’s approval. In consultation with an adviser, students complete a substantial research project or significant creative project on a Women’s Studies topic. (Deferred grading only, pending completion of sequence.) GE credit: ArtHum or SocSci | AH or SS, WE.
195. Thematic Seminar in Critical Gender and Women's Studies (4)
Seminar—4 hours. Group study of a topic, issue or area in feminist theory and research involving intensive reading and writing. May be repeated for credit. Offered irregularly. GE credit: ArtHum or SocSci, Div | ACGH, AH or SS, WRT, WRT.
197. Tutoring in Women's Studies (1-4)
Tutoring—3-12 hours. Prerequisite: upper division standing and consent of director. Leading small, voluntary discussion groups affiliated with a Women’s Studies course. May be repeated for credit for a total of 8 units. (P/NP grading only.) Offered irregularly.
198. Directed Group Study (1-5)
Prerequisite: upper division standing; consent of instructor. (P/NP grading only.) Offered irregularly.
199. Special Study for Advanced Undergraduates (1-5)
Prerequisite: upper division standing; consent of instructor. (P/NP grading only.) Offered irregularly.

Graduate
200A. Current Issues in Feminist Theory (4)
Seminar—4 hours. Current issues in feminist theory; techniques employed to build feminist theory in various fields. Offered irregularly.
200B. Problems in Feminist Research (4)
Seminar—4 hours. Prerequisite: course 200A with a grade of B+ or better. Application of feminist theoretical perspectives to the interdisciplinary investigation of a problem or question chosen by the instructor(s). May be repeated for credit when subject area differs.
201. Special Topics in Feminist Theory and Research (4)
Lecture/discussion—4 hours. Limited enrollment. Explores in depth a topic in feminist theory and research related to the research interests of the instructor. May be repeated for credit when topic differs. (P/NP grading only.)
250. Cultural Study of Masculinities (4)
Seminar—3 hours; term paper. Prerequisite: graduate standing or consent of instructor. Interdisciplinary approaches to understanding the social and cultural construction of masculinities; attention to the effects of biology, gender, race, class, sexual and national identities; criticism of oral, printed, visual, and mass mediated texts, and of social relations and structures. (Same course as American Studies 250.) Offered irregularly.
299. Special Study for Graduate Students (1-12)
(S/U grading only.) Offered irregularly.
299D. Dissertation Research and Writing (4)
Prerequisite: courses 200A and 200B; fulfillment of course requirements for the DE in Feminist Theory and Research, advancement to candidacy. (S/U grading only.) Offered irregularly.

Professional
396. Teaching Assistant Training Practicum (1-4)
Prerequisite: graduate standing. May be repeated for credit. (S/U grading only.) Offered irregularly.

Geography
See Geography (A Graduate Group), below.

Genetics
See Molecular and Cellular Biology, on page 463; and Integrative Genetics and Genomics (A Graduate Group), on page 380.
Stephen Boucher, Ph.D., Associate Professor (Agricultural and Resource Economics)
Mary Cade, Ph.D., Associate Professor (Plant Sciences)
Diana Davis, Ph.D., Associate Professor (History)
Adela de la Torre, Ph.D., Professor ( Chicana/o Studies)
Natalia Deeb-Sossa, Ph.D., Associate Professor (Chicana/o Studies)
Patsy Eubanks Owens, M.L.A., Professor and Chair (Human Ecology)
Ryan Galt, Ph.D., Associate Professor (Human Ecology)
Steven Greco, Ph.D., Associate Professor (Human Ecology)
Luis Guarnizo, Ph.D., Professor (Human Ecology)
Erin Hamilton, Ph.D., Assistant Professor (Sociology)
Susan Handy, Ph.D., Professor (Environmental Science and Policy)
Andrew Hargadon, Ph.D., Professor and Chair (Graduate School of Management)
Syste Hart, Ph.D., Professor (Population Health and Reproduction)
Robert Hijmans, Ph.D., Associate Professor (Environmental Science and Policy)
Hsuan Hsu, Ph.D., Associate Professor (English)
Yufang Jin, Ph.D., Graduate Assistant Professor (Land & Water Resources)
Carl Keen, Ph.D., Professor (Nutrition)
Martin Kenney, Ph.D., Professor (Human Ecology)
A. Peter Klimley, Ph.D., Adjunct Professor (Wildlife, Fish and Conservation Biology)
Frank Lage, Ph.D., Professor (Civil and Environmental Engineering)
Jonathan London, Ph.D., Associate Professor (Human Ecology)
Jeff D. Loux, Ph.D., Assistant Adjunct Professor (Human Ecology)
Mark Lubell, Ph.D., Professor (Environmental Science and Policy)
Jay R. Lund, Ph.D., Professor (Civil and Environmental Engineering)
Amina Mama, Ph.D., Professor (Women and Gender Studies)
Beth Rose Middleton, Ph.D., Assistant Professor (Native American Studies)
Brett Milligan, Ph.D., Assistant Professor (Human Ecology)
N. Claire Napawan, M.L.A., Assistant Professor (Human Ecology)
Betina Ng’Weno, Ph.D., Associate Professor (African American and African Studies Program)
Deb Niemeier, Ph.D., Professor (Civil and Environmental Engineering)
Michael Rios, Ph.D., Associate Professor (Human Ecology)
Lynn Rolfer, Ph.D., Professor (Classics, Art History)
Ann Savageau, Ph.D., Professor (Environmental Science and Policy)
Mark Schwartz, Ph.D., Professor (Environmental Science and Policy)
Art Shapiro, Ph.D., Professor (Evolution and Ecology)
Sheryl Ann Simpson, Ph.D., Assistant Professor (Human Ecology)
Aaron Smith, Ph.D., Associate Professor (Agricultural and Resource Economics)
Smitri Sinivas, Ph.D., Professor (Anthropology)
Julie Sze, Ph.D., Associate Professor (American Study and Gender Studies)
Thomas P. Tomich, Ph.D., Professor (Human Ecology)
Susan Utin, Ph.D., Professor (Land and Air and Water Resources)
M. Anne Visser, Ph.D., Assistant Professor (Human Ecology)
Charles Walker, Ph.D., Associate Professor (History)
Wesley W. Wallender, Ph.D., Professor (School of Education)
Stephen Wheeler, Ph.D., Associate Professor (Human Ecology)
Diane Wolf, Ph.D., Professor (Sociology)
Truman Young, Ph.D., Professor (Plant Sciences)
Minhngua Zhang, Ph.D., Professor (Land and Air Water Resources)
Emeriti Faculty
Michael Barbour, Ph.D., Professor Emeritus (Plant Sciences)
David Boyd, Ph.D., Associate Professor Emeritus (Anthropology)
Cynthia Brandt, Ph.D. Professor Emeritus (History)
Stephen Brush, Ph.D., Professor Emeritus (Human and Ecology)
Thomas A. Cahill, Ph.D., Professor Emeritus (Environmental Science and Policy)
Deborah Elliot-Fish, Ph.D., Sr. Lecturer, SOE Emeritus (Wildlife, Fish and Conservation Biology)
Joan Flax-Heimer, Ph.D., Associate Research Scientist, Emeritus (Geology)
Mark Francis, M.L.A., Professor Emeritus (Human Ecology)
Isao Fujimoto, Ph.D., Sr. Lecturer SOE Emeritus (Human Ecology)
Charles Goldsmith, Ph.D., Professor Emeritus (Environmental Science and Policy)
James Grieshop, Ph.D., Specialist in Cooperative Extension Emeritus (Human Ecology)
Louis Grivetti, Ph.D., Professor Emeritus (Nutrition)
Joyce Gutstein, Ph.D., Director, Emeritus (Public Service Research Program)
Frank Hirtz, L.L.D., Ph.D., Sr. Lecturer SOE Emeritus (Human Ecology)
Richard Howitt, Ph.D., Professor Emeritus (Agricultural and Resource Economics)
Suad Joseph, Ph.D., Professor Emeritus (Anthropology)
Nguyen Kien, Ph.D., Professor Emeritus (Anesthesiology)
F. Thomas Ledig, Ph.D., Adjunct Professor Emeritus (Plant Sciences)
Dean MacCary, Ph.D., Professor Emeritus (Human Ecology)
Heath Massey, M.L.A., Professor Emeritus (Human Ecology)
E. Steve McNair, M.L.A., Sr. Lecturer, SOE Emeritus (Landscape Architecture)
Jay Mechling, Ph.D., Professor Emeritus (American Studies)
Patricia Mohlultzian, Ph.D., Professor Emeritus (Civil and Environmental Engineering)
Janet Moomen, Ph.D., Professor Emeritus (Human Ecology)
Jeffrey Mount, Ph.D., Professor Emeritus (Geology)
Peter B. Moyne, Ph.D., Professor Emeritus (Wildlife, Fish and Conservation Biology)
Ben Orlove, Ph.D., Professor Emeritus (Human Ecology)
Richard Plant, Ph.D., Professor Emeritus (Plant Sciences)
James Quinn, Ph.D., Professor Emeritus (Environment and Policy)
David Robertson, Ph.D., Professor Emeritus (English)
Margaret Rusher, Ph.D., Professor Emeritus (Textiles and Clothing)
Michael P. Smith, Ph.D., Professor Emeritus (Human Ecology)
Margaret Swain, Ph.D., Associate Adjunct Professor Emeritus (Women’s and Gender Studies)
Robert L. Thayer, Jr., M.A., Professor Emeritus (Human Ecology)
Stefano Varese, Ph.D., Professor Emeritus (Native American Studies)
Geoffrey Wandersforde-Smith, Ph.D., Associate Professor Emeritus
Miriam J. Wells, Ph.D., Professor Emeritus (Human Ecology)
E. Greg McPherson, Ph.D., Lecturer and Associate in the Agricultural Experiment Station
Lorrance C. Oki, Ph.D., Associate Specialist in Cooperative Extension (Plant Sciences and Human Ecology)
Hugh Safford, Ph.D., Regional Ecologist/Lecturer in Environmental Science and Policy
Kenneth Tate, Ph.D., Specialist in Cooperative Extension (Plant Sciences)
James Thorne, Ph.D., Research Scientist (Environmental Science and Policy)
Joshua Viers, Ph.D, Associate Research Scientist (John Muir Institute of the Environment)
Graduate Study. The Graduate Group in Geography (GGG) offers programs of study and research leading to the M.A. and Ph.D. degrees. Faculty and students share a common interest in spatial interaction between humans and the biophysical environment. The wide faculty interests attract a diverse set of students in such areas as biogeography, urban forestry and related natural science and engineering fields, as well as human geography and related social science fields. A number of faculty members use and teach geographic information systems, remote sensing, and related geographic techniques, and must have a strong field orientation. The strengths of the Davis campus and its faculty enable the program to focus on important issues and problems facing people, place and power, community and regional identity and change, people-environment interaction, agricultural sustainability, landscape architecture, environmental change, biogeochemical resource management, and technological innovations in computing and the use of geographic information systems. Students are mentored by faculty across the many colleges of the university.
Preparation. Most students considered for admission will have an undergraduate major in geography or in a closely related field. Generally, a student without an undergraduate degree in geography will be required to complete the equivalent of a minor in geography, consisting of one course each in human geography, physical geography and geographic methods, plus any additional undergraduate coursework required as background for graduate research emphasis, as determined by the student’s guidance committee.
Graduate Advisers. Ryan Galt (Human Ecology), Robert Hijmans (Environmental Science and Policy), Jay Lund (Civil and Environmental Engineering), James Quinn (Environmental Science and Policy), and M. Anne Visser (Human Ecology)
Courses in Geography (GEO)
Graduate
200AN. Geographical Concepts (4)
Lecture/discussion—3 hours, term paper. Prerequisite: graduate standing in Geography or consent of instructor. Concepts and thematic content of the discipline, including contemporary research questions.
W:World Culture, WE: Writing Experience
200BN. Theory & Practice of Geography (4)
Lecture/discussion—4 hours. Prerequisite: graduate standing. Class size limited to 20. Development, application, and philosophical background of theory in discipline of geography and geographical knowledge production. Similarities and differences in theories employed in physical and human geography and cartography. Geographic contributions to interdisciplinary theory bridging biophysical sciences, social sciences, and humanities.
W: World Culture, R: Raito.
200CN. Quantitative Geography (4)
Lecture—2 hours, laboratory—6 hours. Class size limited to 25 students. Provides an overview of quantitative approaches in spatial data analysis. Overview of different approaches used for inference, modeling, and prediction. Also learn how to write computer programs to implement these methods. —S. S. Hijmans
200DN. Socio-Spatial Analysis in Geography (4)
Lecture/discussion—4 hours. Class size limited to 25. Introduction to methodologies of socio-spatial analysis in interviews, and ethnographic fieldwork. Students develop a critical understanding of different methodologies and research strategies, and their appropriate applications in overall research design. —W. (W.) Eubanks-Owens

200E. Advanced Research Design in Geography (2)
Lecture/discussion—2 hours. Prerequisite: standing in courses 200AN, 200BN, 200CN and 200DN. Class size limited to 15. Helps Ph.D. students develop their research question, design their research plan and complete a full dissertation research proposal. —F. (F)

201. Sources and General Literature of Geography (4)
Discussion—4 hours. Prerequisite: graduate standing in geography, consent of instructor. Designed for students preparing for higher degrees in geography. May be repeated for credit in one or more of the following subfields: physical, cultural, economic, urban, historical, political, conservation, and regional geography.

210. Topics in Biogeography (3)
Lecture—2 hours; discussion—1 hour. Prerequisite: Evolution and Ecology 147 or Wildlife, Fish, and Conservation Biology 156 (may be taken concurrently). Required of instructor required for undergraduates. Current topics in historical and ecological biogeography, including macroecology and areography, GIS and remote sensing, phylogeography, vegetation patterns, patterns shaping regional transportation planning, and tools and techniques used in regional transportation planning, issues facing regional transportation planning agenc-

211. Physical Geography Traditions and Methods (3)
Lecture/discussion—2 hours; term paper. Prerequisite: introductory course in physical geography. Graduate-level standing in geography or related discipline. Discussion of the physical science tradition in geography, including key concepts and current research in climatology, geomorphology, soils geography, biogeography, climate change, watershed science, and coastal studies. Research paradigms, programs, and methods as used by physical geographers will be discussed. May be repeated three times for credit. Offered in alternate years. —(F)

213. Organismal Geography (3)
Lecture—3 hours. Prerequisite: Civil and Environmental Engineering 114, 141, and 142; Civil and Environmental Engineering 153 recommended. Engineering, institutional, economic, and social basis for shaping water resources. Examples in the context of California’s water development and management. Uses of computer modeling to improve water management. (Same course as Civil and Environmental Engineering 267.) —F. (F) Lund

214. Seminar in Geographical Ecology (2)
Seminar—2 hours. Prerequisite: Evolution and Ecology 100 or 101 or consent of instructor. Recent developments in theoretical and experimental biogeography, historical biogeography and related themes presented in systematic, the biology of colonizing species, and related topics. (Same course as Population Biology 256, except by permission only.) —S. (S.) Shapiro

215. Ecologies of Infrastructure (4)
Seminar—4 hours. Open to graduate standing or consent of instructor. Focus on design practices and theory associated with ecological conceptions of infrastructure, including networked infrastructure, region, bioregion, regionalization, ecological engineering, reclamation ecology, novel ecosystems, and theory/articulation of landscape change. Offered in alternate years. (Same course as Landscape Architecture 215.)—Milligan

220. Topics in Human Geography (4)
Seminar—4 hours. Prerequisite: graduate standing or consent of instructor. Class size limited to 20 students. Examination of theoretical frameworks and theory in human geography with an emphasis on contemporary debates and concepts in social, cultural, humanistic, political, economic, and philosophical traditions. Specific discussion of space, place, scale and landscape; material and imagined geographies. Offered in alternate years. —W. (W.) Kios

230. Citizenship, Democracy, & Public Space (4)
Seminar—4 hours. Prerequisite: graduate standing or consent of instructor. Introduction to seminal works in political theory, philosophy, and the social sciences that focus on citizenship and the public sphere; development of perspective regarding restructurings of public space in a pluralistic and global culture; discussion of contemporary case studies. (Same course as Landscape Architecture 200.) —S. (S.) Kios

233. Urban Planning and Design (4)
Lecture—2 hours; discussion—2 hours. Limited to graduate students. Regulation, design, and development of the built landscape, planning and land development processes, zoning and subdivision regulation, site planning, urban design goals and methods, public participation strategies, creatively designing landscapes to meet community and ecological goals. (Same course as Landscape Architecture 205.) —F. (F) Wheeler

236. Transportation Planning and Policy (4)
Lecture/discussion—4 hours. Limited enrollment. Transportation planning process at the regional level, including role of technology in shaping regional transportation planning, tools and techniques used in regional transportation planning, issues facing regional transportation planning agencies, and pros and cons of potential solutions and strategies. Students taking this course previously as Transportation Planning and Policy 289 cannot repeat it for credit. Taking other Transportation Planning and Policy 289 does not preclude taking Transportation Planning and Policy 220 for credit. (Same course as Transportation Planning and Policy 220.) Offered in alternate years.—S. Handy

241. The Economics of Community Development (4)
Seminar—4 hours. Prerequisite: graduate standing. Economic theories and methods of planning for communities. Human resources, community services and infrastructure, industrial and technological change, and regional growth. Community’s role in the greater economy. (Same course as Community and Regional Development 241.) —F. (F) Kenney

245. The Political Economy of Urban and Regional Development (4)
Lecture—4 hours. Prerequisite: Community and Regional Development 157, 244, or the equivalent. How global, political and economic restructuring and change are mediated by community politics; social production of urban form; role of the state in uneven development; dynamics of urban growth and regional development in California. (Same course as Community & Regional Development 245.) Offered irregularly. —W. (W.) Guarnizo

246. The Political Economy of Transnational Migration (4)
Lecture—4 hours. Prerequisite: graduate standing. Theoretical perspectives, and empirical research on social, cultural, political, and economic processes of transnational migration to the U.S. Discussion of conventional theories will precede contemporary comparative perspectives on class, race, ethnicity, citizenship, and the ethnic economy. (Same course as Community & Regional Development 246.) —S. (S.) Guarnizo

248. Social Policy, Welfare Theories and Communities (4)
Seminar—4 hours. Prerequisite: graduate standing. Theories and comparative histories of modern welfare states and social policy in relation to legal/normative, organizational, and administrative aspects. Analysis of specific social issues within the U.S./California context. Not open for credit to students having completed Community & Regional Development 248A and 248B. (Same course as Community & Regional Development 248.) Offered in alternate years. —S. (S.)

252. Landscape and Power (4)
Seminar—4 hours. Prerequisite: graduate standing or consent of instructor. How various representations of landscape have historically worked as agents of cultural power. Course framework is interdisciplinary, including studies of landscape representations in literature, art, photography, cartography, cinema, and landscape architecture. (Same course as Landscape Architecture 260.) —F. (F)

254. Political Ecology of Community Development (4)
Lecture—4 hours. Prerequisite: graduate standing. Community development from the perspective of geographical political ecology. Social and environmental outcomes of the interplay between communities and land-based resources, and between social groups. Cases of community conservation and development in and industrialized counties. (Same course as Community and Regional Development 244.) Offered in alternate years.—W. Galt

260. Global Political Ecology (4)
Seminar—3 hours; term paper or discussion—1 hour. Open to graduate students. Current topics in historical and social-cultural causes of environmental change. Introduction to development and sustainability, the political economy of science and power/knowledge. Cases of social movements, justice, resistance, gender, race and class. Focus outside North America. Offered in alternate years.—S. Davis

270. Experimental Design and Analysis (5)
Lecture—3 hours; discussion/laboratory—2 hours. Prerequisite: Plant Sciences 120 or equivalent. Intro-duction to the research process and statistical meth-ods of data collection and interpret experiments. —W. (W.) Dubcovsky

271. Applied Multivariate Modeling in Agricultural and Environmental Sciences (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: one of Plant Sciences 120, 205, Statistics 106, 108, or equivalent. Multivariate linear and nonlin-
ear models. Model selection and parameter estima-
tion. Analysis of manipulative and observational agronomic experiments: random component, and path analyses. Logistic and biased regression. Bootstrapping. Exercises based on actual research by UC Davis students. —F. (F) Luca

279. Discrete Choice Analysis of Travel Demand (4)
Lecture—4 hours. Prerequisite: Civil and Environmental Engineering 114. Behavioral and statistical principles underlying the formulation and estimation of the choice model. Practical application of discrete choice models to characterization of choice behavior, hypothesis testing, and forecasting. Emphasis on computer exercises using real-world data sets. (Same course as Civil and Environmental Engineering 254.) —S. (S.)

280. Field Studies in Geography (3)
Lecture—1 hour; fieldwork—6 hours. Prerequisite: undergraduate or graduate coursework in geography. Student of instructor required. Limited to 20 students. A topic or subdiscipline of geography will be the theme for the course in any given offering, with a focus on current research on this topic, field methodologies, and data analysis in geographical and physical geography. May be repeated two times for credit.

281. Transportation Survey Methods (4)
Lecture—4 hours. Prerequisite: Statistics 13; Civil and Environmental Engineering 254 recommended. Description of types of surveys commonly used in transportation demand modeling, including travel and activity diaries, attitudinal, panel, computer, and stated-response surveys. Discussion of sampling, Fall 2011 and on Revised General Education (GE): AH—Arts and Humanities; SE—Science and Engineering; SS—Social Sciences; AC—American Cultures, DD—Domestic Diversity; OL—Oriental Studies; QC—Quantitative, SL—Scientific; VL—Visual; WC—World Cultures; WE—Writing Experience
Pre-Fall 2011 General Education (GE): ArtHum—Arts and Humanities; SciEng—Science and Engineering; SocSci—Social Sciences; DomD—Domestic Diversity; Wr—Writing Experience
Quarter Offered: F—Fall, W—Winter, S—Spring, Su—Summer; 2017/2018 offering in parentheses
experimental design, and survey design issues. Analysis methods, including factor, discriminant and cluster analysis. Not open for credit to students who have taken Civil and Environmental Engineering 255. [Same course as Transportation Technology and Policy 200.]—W. (W.)

286. Selected Topics in Environmental Remote Sensing (3)
Discussion—2 hours; lecture—1 hour; project. Prerequisite: consent of instructor; Environmental and Resource Sciences 186 or equivalent required; Environmental and Resource Sciences 180L recommended. In depth investigation of advanced topics in remote sensing applications, measurements, and theory. Not open for credit to students who have taken Civil and Environmental Engineering 255. [Same course as Hydrologic Science 286.] May be repeated for credit. Offered irregularly.—Ustin

290. Seminar in Geography (1-3)
Seminar—1-3 hours. Prerequisite: graduate standing or consent of instructor. Seminar focuses on specific topical areas within geography, which will vary from quarter to quarter. Students expected to present an oral seminar on an aspect of the general topic under discussion. May be repeated six times for credit. (S/U grading only.)—F, W, S, (F, W, S.)

291. Seminar in Cultural Geography (4)
Seminar—3 hours.

293. Graduate Internship (1-12)
Internship—1-12 hours. Prerequisite: consent of instructor. Prerequisite: graduate student status in Geography and completion of all course requirements. May be repeated for credit. (S/U grading only.)—F, W, S, (F, W, S.)

295. Seminar in Urban Geography (4)
Seminar—3 hours. Prerequisite: consent of instructor. Seminar focuses on specific topical areas within geography, which will vary from quarter to quarter. Students expected to present an oral seminar on an aspect of the general topic under discussion. May be repeated six times for credit. (S/U grading only.)—F, W, S, (F, W, S.)

296. Teaching Assistant Training Practicum (1-3)
Discussion—2 hours; class—1 hour. Prerequisite: consent of instructor. Individually designed, supervised internship, off campus, in community or institutional setting. Developed with advice of faculty mentor. May be repeated for credit. (S/U grading only.)—F, W, S, (F, W, S.)

297. Graduate Group in Geography Seminar (2)
Lecture/discussion—1 hour; term paper. Prerequisite: graduate standing. Seminars by UC Davis faculty and prominent national and international scholars, research presentations by Graduate Group in Geography Ph.D. candidates. May be repeated for credit. (S/U grading only.)

298. Group Study (1-5)
Prerequisite: consent of instructor. (S/U grading only.)

299. Research (1-12)
(S/U grading only.)

299D. Individual Study (1-12)
Prerequisite: graduate student status in Geography and consent of instructor. (S/U grading only.)

Professional

396. Teaching Assistant Training Practicum (1-4)
Prerequisite: graduate standing. May be repeated for credit. (S/U grading only.)

Geology

See Earth and Planetary Sciences, on page 237.

Geophysics

[College of Letters and Science]

Geophysics is the study of the physical properties and processes of the solid Earth and the surrounding atmosphere. Many problems in the Earth Sciences require geophysical techniques for study. The interdisciplinary minor in geophysics is for students with backgrounds in the physical sciences, engineering and other fields who are interested in pursuing a graduate or professional career in geophysics, or those who desire a career in the energy, minerals, or environmental industries. The minor is sponsored by the Department of Earth and Planetary Sciences in 2119 Earth and Physical Sciences Building.

Minor Program Requirements:

UNITS

Geophysics

Engineering 6 or Computer Science Engineering 30 or Mechanical Engineering 5........... 4

Choose two courses from the following:

Geology 160, 167, 163, 162, 161 6........ 6

Applied Science Engineering 115 4

One course sequence chosen from the following: 5-12

(a) Atmospheric Science 120, 121A, 121B or,
(b) Geology 101, 101L or,
(c) Mathematics 118A, 118B, 118C or,
(d) Physics 104A or Engineering 180; and Physics 105A; and Engineering 104 or Hydrology 103N or Physics 105C

Minor Adviser, Magagi Billen, Department of Earth and Planetary Sciences.

A.B. Major Requirements:

Preparatory Subject Matter ...................................................... 0-27

German 1-2-3 (or the equivalent) ........................................... 0-15

German 20, 21, 22 ................................................................. 0-12

Depth Subject Matter .............................................................. 44

General Program

German 101A, 101B, 103 ................................................... 12

German 120 or 118 ................................................................. 4

Four courses chosen from upper-division offerings taught in German: 16

Three additional upper-division courses selected from either 104-109 or 121-198 12

Or courses in other disciplines that focus on German history, thought, and culture, upon approval of the major adviser. Electives include, but are not limited to:

History 176C, 177A, 177B
Comparative Literature, Critical Theory, Feminist Theory and Research, 144A and 144B
Economics 110A, 110C, 110D, 110E
Philosophy 170, 175
Political Science 117, 118C, 137

Note: Many of the above electives from other disciplines have prerequisites. The total of 44 upper-division units may include units earned in the Education Abroad Program.

Total Units for the Major................................. 44

Minor Program Requirements:

The Department offers a German minor consisting of at least 20 upper-division units of courses taught in German. Students wishing to minor in German should consult the undergraduate adviser.

UNITS

German .......................................................... 20

Major Adviser, C. Zhang

Honors and Honors Program.

The honors program consists of two quarters of research (194H) terminating in an honors thesis. For details consult the undergraduate major adviser. Graduation with high or highest honors requires participation in the honors program.

Graduate Study.

The Department offers programs of study and research leading to the M.A. degree and to the Ph.D. degree in German Literature. Additional degree options for a designated emphasis are available through departmental affiliations with the programs in Social Theory and Comparative History, Critical Theory, Feminist Theory and Research, and Second Language Acquisition. Detailed information may be obtained by writing to the Department Chairman or the Graduate Adviser.

Graduate Adviser, S.-E. Rose

Prerequisite Credit. Credit normally will not be given on the lower-division level for a course that is the prerequisite of a course already successfully completed.

Courses in German (GER)

Lower Division

Course Placement. Students with two years of high school German normally continue in German 2; those with three years, German 3; those with four years, German 20.

1. Elementary German (5)
Discussion—5 hours; laboratory—1 hour. Not open to students who have taken course 1A. Introduction to German grammar and development of all language skills in a cultural context with special emphasis on communication. Students who have successfully completed German 2 or 3 in the 10th or higher grade in high school may receive unit credit for this course on a P/NP grading basis only. Although a passing grade will be charged to the stu