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. Pre-requisite: consent of instructor; Environmental and Resource Sciences 186 or equivalent required; Environmental and Resource Sciences 186L 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 special 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)
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.)

295. Seminar in Urban Geography (4)
Seminar—3 hours. W—W (W).

297. Graduate Group in Geography
Seminar—1-3 hours. Prerequisite: graduate standing. Seminar focuses on special 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.)

Faculty
Carlee Arnett, Ph.D., Associate Professor
Jaimey Fisher, Ph.D., Associate Professor
Gail Finney, Ph.D., Professor
Distinguished Teaching Award/Graduate Professional
Elisabeth Krimmer, Ph.D., Professor
Sven-Erik Rose, Ph.D., Associate Professor
Chunjie Zhang, Ph.D., Assistant Professor
Emeriti Faculty
John F. Fetzer, Ph.D., Professor Emeritus
Ingeborg Henderson, Ph.D., Senior Lecturer Emerita
Academic Senate Distinguished Teaching Award
Winder McConnell, Ph.D., Professor Emeritus
Karl R. Menges, Ph.D., Professor Emeritus
H. Guenther Njerjes, Ph.D., Associate Professor Emeritus
Fritz Sammern-Frankenegg, Dr.Phil., Lecturer Emeritus
Affiliated Faculty
Kirsten Harges, Ph.D., Lecturer

The Major Program
The German major explores in depth the literature and language, the culture and commerce of the German-speaking world (primarily Germany, Austria and Switzerland). The key to the major lies in the careful balance between solid core requirements and the possibility to explore German subject areas through the lens of other disciplines, such as music, art, philosophy, history, and economics.

The Program. The department offers courses that highlight literary figures, movements and themes. These courses form the core of upper-division literature electives, but we also offer courses that discuss contemporary culture and commerce in German-speaking countries. Regardless of emphasis, students will find maximum practice in spoken and written German as well as in listening comprehension in all upper-division courses offered in German.

Career Alternatives. Completion of the major prepares students for graduate study in German or for career opportunities in international fields ranging from employment in business and government to careers in the fine arts and sciences. Also, it permits admission to professional schools such as law and medicine.

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 taking place beneath and surrounding the Earth. Many problems in the Earth Sciences require geophysical techniques for study. The interdisciplinary major 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:

Geophysics.............................................19-26
Engineering 6 or Computer Science Engineering 30 or Mechanical Engineering 5.............................................4
Choose two courses from the following:
Geology 160, 161, 162, 163, 164.............................................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, Maggi Billen, Department of Earth and Planetary Sciences.

A.B. Major Requirements:

Preparatory Subject Matter ..........................0-27
German 1-12 (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

Other courses in other disciplines that focus on German language, thought, culture, upon approval of the major adviser. Electives include, but are not limited to:
Art History 176C, 177A, 177B
Comparative Literature 138, 140-142, 147
Economics 110B, 116, 160A and 160B, 162
Film Studies 142, 176A, 176B
History 142A, and 142B, 144A and 144B
Music 110A, 110C, 110D, 110E
Philosophy 170, 175
Political Science 117A, 117C, 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.

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

Major Adviser, C. Zhang

Honor and Honors Program. The honors program consists of two quarters of research (194H) terminating in a final 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 Chairperson 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...