

Geography

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The department offers courses in human geography, physical geography, earth systems science, geographic techniques and methods, and geology. Students may major in geography, social studies education options within geography, or environmental studies; and they may minor in geography, environmental studies, or geology. These areas provide preparation for both graduate study and immediate employment. Courses in all of these fields are valuable parts of a general liberal education, developing an awareness of earth phenomena and the role these play in people's lives. The social studies education options prepare students for a career in teaching social studies at the grades 1-6 or 7-12 levels. The geography major with electives in PGEOG/GTECH and a minor in one of the sciences prepares students to pursue further study leading to a career in teaching earth science. Many of these courses are concerned with the environmental problems that are of so much concern today, and can provide part of a well-rounded program of environmental studies.

Revisions in the curricula within the Department of Geography that are currently under way may involve modifications in various requirements. Please consult with the department office for up-to-date information and requirements.

General Education Requirement (GER) GEOG 101, 150, 221, 226 and 251 or 260 (but not both) may be used to fulfill Broad Exposure/Stage 2, Group B; GEOL 101, 102, PGEOG 130, and 231 may be used to fulfill Broad Exposure/Stage 2, Group E. GEOL 180 may be used to fulfill Broad Exposure/Stage 2, Group E non-laboratory. Only one course may be used to satisfy the requirement for both the major and the GER Core Requirement. No more than 6 credits (or the credits of two courses, whichever is greater) of the minor may be offered toward the General Education Requirement.

Distribution Requirement See Appendix A for the Distribution Requirement, which was replaced by the General Education Requirement in fall 2001 and which may be binding on students who matriculated prior to fall 2001.

Preparation for Teaching

In cooperation with the School of Education, the department provides opportunities for students to prepare for a career in education. Students interested in this career track should consult the Education pages of this catalog. The following routes are available to qualified students.

1. Option in Social Studies within the Geography Major for Childhood Education Teachers, grades 1-6 (see listing under Program in Geography).
2. Option in Social Studies within the Geography Major for Adolescence Education Teachers, grades 7-12 (see listing under Program in Geography).

3. BA Program in Childhood Education, grades 1-6 (QUEST), with a major in geography (see guidelines for the QUEST Program under the School of Education listings).
4. Preparation for the MA program for Teachers of Earth Science (grades 7-12) with a concentration in physical geography, geology, earth science, or environmental science (see listing under Program in Geology).

PROGRAM IN GEOGRAPHY

Students who expect to do graduate work in geography are advised to take courses in statistics and/or computer science; and we suggest, but do not require, that those planning to continue to the doctoral level fulfill the GER Foreign Language Requirement with the language of the area of regional specialization.

Major in Geography (30 cr)

PGEOG 130 (4 cr)

GTECH 201 (4 cr)

GEOG 221 (4 cr)

One regional geography course (3 cr)

A minimum of 15 additional credits consisting of: 0-6 credits selected from 200-level courses with a PGEOG, GTECH, GEOG, or GEOL prefix; and a minimum of 9 credits selected from 300-level courses with a PGEOG, GTECH, or GEOG prefix (except GEOG 391, 392, and 393, and PGEOG 391, 392, and 393), or LACS 330.

It is recommended, but not required, that geography majors use GEOL 101, 102, STAT 113 or 213 to satisfy a portion of the General Education Requirement. Note that GEOG 101 is a prerequisite to GEOG 221, but does not count toward the major.

Minors Geography majors may minor in a wide variety of fields but must secure permission from their major advisor. No more than 6 of the 12 credits needed for a minor (or the credits of two courses, whichever is greater) may be applied to the distribution requirement. For students preparing to become teachers of social studies, education is an appropriate minor. For students wishing to concentrate in the areas of geomorphological studies, environmental geology or environmental geoscience, it is recommended that a minor in geology, composed of 200- and 300-level GEOL courses, be selected and appropriate courses from cognate fields be used to satisfy general education and elective credit requirements. For information concerning approved courses in the minor, students should consult a departmental advisor.

Options in Social Studies Education within the Geography Major

1. Option in Social Studies within the Geography Major for Childhood Education Teachers. The School of Education provides opportunities for students to prepare for a career in teaching in grades 1-6. In addition to other mandatory course work provided by the School of Education, interested students should complete the course of study outlined below. At least 18 credits of these courses must be satisfactorily completed (grade of C or better) before the student enrolls in the social studies methods courses. Also, to the extent permitted by College guidelines, these courses can be used to satisfy the Core and the Pluralism and Diversity requirements.

Program Prerequisites (9 credits). These courses (or equivalents) must be taken as part of the General Education Requirement:

HIST 151	The United States from the Colonial Era to the Civil War (3)
HIST 152	The United States from the Civil War to the Present (3)
GEOG 101	People and Their Environment (3)

Required Courses (18 credits)

HIST 111	World History to 1500 (3)
HIST 112	World History from 1500 to the Present (3)
GEOG 241	Population Geography (3)
GEOG 251	Geography of the United States and Canada (3)
GEOG 260	Geography of New York State (3)
POLSCI 111	American Government and Politics (3)

Elective Courses (9 credits). Choose any three of the following:

AFPRL 209	Introduction to Caribbean History to 1900 (3)
or	
AFPRL 210	Introduction to Caribbean History from 1900 to the Present (3)
HIST 201	Ancient Civilization (3)
HIST 353	History of New York City
HIST 358	20th Century United States (3)
HIST 359	Immigration and Ethnicity in the United States (3)
GEOG 341	Urban Geography (3)
GEOG 342	Geography of International Migration and Ethnicity (3)
GEOG 347	Cultural Geography (3)

Required Capstone Course (3 credits):

GEOG 380	Seminar in Geographic Concepts and Methodology (3)
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2. Option in Social Studies within the Geography Major for Adolescence Education Teachers. In cooperation with the School of Education, the Department of Geography provides opportunities for students to prepare for a career in teaching social studies in grades 7-12. In addition to mandatory course work provided by the School of Education, interested students should complete the course of study outlined below. At least 18 credits of these courses or equivalents must be satisfactorily completed (grade of C or better) before the student enrolls in the social studies methods courses. Also, to the extent permitted by College guidelines, these courses can be used to satisfy the Core and the Pluralism and Diversity requirements.

Prerequisites for the Major (9 credits). These courses (or equivalents) must be taken as part of the General Education Requirement.

HIST 151	The United States from the Colonial Era to the Civil War (3)
HIST 152	The United States from the Civil War to the Present (3)
GEOG 101	People and Their Environment (3)

Requirements for the Major (33 credits)

- A. POLSCI 111 Introduction to American Government and Politics (3)
- B. ECON 100 Introduction to Economics (3)
- C. GEOG 251 Geography of the United States and Canada (3)
- D. HIST 111 World History to 1500 (3)
- E. HIST 112 World History from 1500 to the Present (3)
- F. Two of the following history courses (at least one of which must be at the 300 level):

AFPRL 209	Introduction to Caribbean History to 1900 (3)
or	
AFPRL 210	Introduction to Caribbean History from 1900 to the Present (3)
HIST 201	Ancient Civilization (3)
HIST 209	Law in Western Society (3)
HIST 210	History of Judaism (3)
HIST 211	Medieval Civilization (3)
HIST 250.66	Introduction to Caribbean History (3)
HIST 277	Asian Civilization (3) or
HIST 278	Modern Asian Civilization (3)
HIST 288	History of Africa to the 19th Century (3) or
HIST 289	Africa in the 19th and 20th Centuries (3)
HIST 317	History of the American City (3)
HIST 353	History of New York City (3)
HIST 359	Immigration and Ethnicity in the United States (3)
- G. Two of the following geography courses (at least one of which must be at the 300 level):

GEOG 270	Mexico, Central America and the Caribbean (3)
GEOG 271	South America (3)
GEOG 272	Europe (3)
GEOG 274	Middle East and North Africa (3)
GEOG 275	Sub-Saharan Africa (3)
GEOG 277	East Asia (3)
GEOG 278	Russia and Central Asia (3)
GEOG 328	Urban Environmental Problems: Evaluations and Solutions
GEOG 341	Urban Geography (3)
- H. One 3-credit course at the 200 level or higher in cultural anthropology (ANTHC), political science, sociology, history or geography (3).
- I. The following capstone course:

GEOG 380	Seminar in Geographic Concepts and Methodology (3)
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PROGRAM IN ENVIRONMENTAL STUDIES**Major in Environmental Studies** (30.5 cr)

The major consists of a minimum of 30.5 credits as follows:

GEOL 101	Fundamentals of Geology (4.5 cr)
GEOG 226	Environmental Conservation: Resource Management (3 cr)
PGEOG 130	Weather and Climate (4 cr)

A minimum of 19 additional credits selected from the list of elective courses and subject to the following restrictions:

A minimum of 9 credits must be at the 300 level or higher;

A minimum of 6 credits must be in approved courses that have something other than a GEOG, PGEOG, or GTECH prefix; and

A maximum of 4 credits in Individual Study, Honors, and Internship (combined) may be applied to the major.

Courses that may be used for the elective portion of the major (see respective department listings for course descriptions; this list is subject to annual revision):

Anthropology

ANTHC 308	Human Ecology (3 cr)
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Biology

BIOL 304	Environmental Microbiology (3 cr)
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Community Health Education

(see *The Schools of the Health Professions*)

COMHE 325	Environmental Public Health Problems (3 cr)
COMHE 330	Principles of Epidemiology (3 cr)

Economics

ECO 330	Economic Development (3 cr)
ECO 336	Regional Development (3 cr)
ECO 340	International Trade: Theory and Policy I (3 cr)
ECO 341	International Trade: Theory and Policy II (3 cr)
ECO 355	Industrial Organization and Social Control of Business (3 cr)
ECO 755	Business Enterprise and Public Policy (3 cr)†

Geography

GEOG 221	Economic Geography (4 cr)
GEOG 227	Environmental Conservation: Urban Problems (3 cr)
GEOG 274	GEOG 242 Medical Geography (3 cr) Regional Geography of the Middle East and North Africa (3 cr)
GEOG 321	Transportation Geography (3 cr)
GEOG 328	Urban Environmental Problems: Evaluations and Solutions (3 cr)
GEOG 335	International Pollution Issues (3 cr)
GEOG 341	Urban Geography (3 cr)
GEOL 205	Environmental Geology (3 cr)
GEOL 280	Marine Geology (3 cr)
GEOL 332	Hydrology (3 cr)

PGEOG 212	Geography of Soils and Vegetation (3 cr)
PGEOG 231	Physical Geography II: Principles of Geomorphology (3 cr)
PGEOG 332	Hydrology (3 cr)
PGEOG 334	Coastal Geomorphology (3 cr)
PGEOG 361	Global Climatic Change (3 cr)
PGEOG 381	Special Topics in Environmental Studies (1 cr)
PGEOG 382	Special Topics in Environmental Studies (2 cr)
PGEOG 383	Special Topics in Environmental Studies (3 cr)
PGEOG 391	Individual Study in Environmental Studies (1 cr)
PGEOG 392	Individual Study in Environmental Studies (2 cr)
PGEOG 393	Individual Study in Environmental Studies (3 cr)
PGEOG 490	Honors in Environmental Studies (3 cr)
PGEOG 498	Internship in Environmental Studies (1-4 cr)

GTECH 201	Introduction to Mapping and Geographic Information Sciences (3 cr)
GTECH 321	Remote Sensing (4 cr)
GTECH 322	Advanced Image Interpretation (3 cr)
GTECH 350	Field Topographic Surveying (3 cr)
GTECH 361	Geographic Information Science I (3 cr)
GTECH 362	Geographic Information Science II (3 cr)

History

HIST 376.51	The Middle East Today (3 cr)
HIST 383/483	Problems in American History: The Industrial Revolution (3 cr)
HIST 774.52	The Corporation in American Society (3 cr)†
HIST 774.75	Technology and Social Change (3 cr)†

Film and Media Studies

MEDIA 385	Media and Society (3 cr)
MEDIA 399.61	Mass Media and Nuclear Power (3 cr)

Philosophy

PHILO 200.82	International Ethics (3 cr)
PHILO 246	Social and Political Philosophy (3 cr)
PHILO 252	Problems of Law and Morality (3 cr)
PHILO 378.52	Questions of War and Peace (3 cr)
PHILO 394.63	Ethics and Political Economy (3 cr)

Political Science

POLSC 244	Energy and Environmental Politics and Public Policy (3 cr)
POLSC 263	Government and Politics in the Middle East (3 cr)
POLSC 272	Contemporary Issues in Comparative Politics (3 cr)
POLSC 273.75	International Politics of the Middle East (3 cr)
POLSC 376	International Political Economy (3 cr)

Sociology

SOC 235	Community Organization and Action (3 cr)
SOC 259	Mass Media, Communication, and Public Opinion (3 cr)
SOC 313	Consumer Behavior (3 cr)
SOC 325.85	Sociological Perspectives on Food and Hunger (3 cr)
SOC 345	Sociology of Knowledge (3 cr)
SOC 361	Development and Modernization (3 cr)
SOC 421.7	Power Struggles: Citizen Organizations and Social Issues in Energy (3 cr)

† Students who wish to take a 700-level course to satisfy the environmental studies major must obtain permission to do so from the environmental studies advisor and from the department that offers the course.

Urban Affairs and Planning

URBS 401	Managing the Urban Physical Environment (3 cr)
URBP 723	Introduction to Urban Design (3 cr)†
URBP 725	Infrastructure and Site Planning (3 cr)†
URBP 726	Site Planning Workshop (3 cr)†
URBP 734	Environmental Planning (3 cr)†
URBP 736	Energy Planning and Policy Seminar (3 cr)†

And any other new or selected-topic course or transferred course approved by the environmental studies faculty advisor.

Choice of Minor

Students who major in environmental studies may choose any minor listed in the College catalog. That includes departments that are represented on the list of courses that qualify for the major as well as departments that are not listed (such as chemistry, physics, mathematics and statistics). As a general rule, it is recommended that students choose a minor that is closely related to their particular environmental interests. Thus, a student who is interested in environmental policy or ethics might minor in one of the social science or humanities disciplines. Likewise, a student interested in scientific analysis of the environment might choose one of the sciences or mathematics. In any case, consultation with the environmental studies faculty advisor is recommended. No more than 6 of the 12 credits needed for a minor (or the credits of two courses, whichever is greater) may be applied to the General Education Requirement. Students may not use a course to satisfy both the minor and the environmental studies major.

Minor in Environmental Studies

The minor consists of a minimum of 12 credits approved by the student's major department that may include any required or elective course for the environmental studies major.

Internships Students can receive from 1 to 4 credits for internships in government agencies, consumer and activist groups, business and industry, and media organizations involved in energy issues (e.g., Council on the Environment of NYC, Energy Task Force, NY State Assembly, Sierra Club, International Earthcare Center, NY State Department of Energy, Brooklyn Union Gas, NYC Department of Environmental Protection, and the American Museum of Natural History).

Minor in Environmental Studies

The minor consists of a minimum of 12 credits approved by the student's major department that may include any required or elective course for the environmental studies major.

PROGRAM IN GEOLOGY

The department does not offer a major in geology.

Geology Minor A minor in geology consists of 12 credits selected from GEOL prefix courses, PGEOG 231, 334, and GTECH 350, and approved by the student's major department. If after taking a number of geology courses at Hunter, a student wishes to concentrate in geology, it is recommended that the student transfer to a unit of CUNY offering a geology major or take courses on permit at other CUNY units as elective credits.

† Students who wish to take a 700-level course to satisfy the environmental studies major must obtain permission to do so from the environmental studies advisor and from the department that offers the course.

Preparation for Graduate Work in Teaching Earth Science

For students planning to pursue an MA degree for teachers of earth science, grades 7-12, it is recommended that they complete the following undergraduate work:

A baccalaureate degree with a grade point average of 2.8 or better in their science courses and in their overall undergraduate work.

A major of at least 30 credits in arts and sciences.

At least 21 credits in geology, physical geography, earth science or environmental science, including geographic techniques.

A general education core in the liberal arts and sciences that includes 6 credits in English, 6 credits in mathematics/technology, 6 credits in social studies (to include at least one course in U.S. history or geography), 6 credits in the arts and 6 credits in a language other than English.

It is recommended, but not required, that the criteria listed above be satisfied using electives selected from GEOL, PGEOG and GTECH courses; a minor in geology; GER core requirement laboratory science chosen from chemistry, physics or biology, and GER core requirement non-laboratory science chosen from astronomy, oceanography, statistics or mathematics. For further information on the education requirements, students should see an advisor in the School of Education.

GENERAL INFORMATION FOR ALL PROGRAMS

Honors Work and Individual Study To be graduated with departmental honors, a major in the geography or environmental studies program must be admitted to GEOG 490 or PGEOG 490 and have a 3.0 cumulative GPA and a 3.5 GPA in the major. GEOG 391, 392, 393; GEOL 391, 392, 393; and PGEOG 391, 392, 393 also offer students the opportunity of undertaking individual research in geography, geology or environmental studies.

Electives A number of courses in the department have no prerequisite. These are open to all interested students. All others are open to students who meet the prerequisites.

Fieldwork Several courses offer students an opportunity to study geography, geology and environmental situations in the field. They are usually offered during intersession periods, summer session, or on weekends (consult *Schedule of Classes*). In addition to the regular field courses, special-topic field courses are offered periodically, and fieldwork is conducted in connection with a number of the other courses. An additional fee for transportation, lodging and food allowance is attached to these courses, depending on the focus of the course and its itinerary.

Graduate Study Graduate-level courses may be taken for credit toward the bachelor's degree by highly qualified seniors. Written permission must be obtained from the undergraduate and graduate advisors.

Intern Program Internship (GEOG 498, PGEOG 498) provides opportunities for qualified majors and minors in both geography and environmental studies to work in positions of responsibility in professional institutions while earning from 1 to 4 academic credits. See a departmental advisor for details.

Study Abroad/National Student Exchange Programs The department is a participant in these programs and offers courses periodically outside of New York City. See a departmental advisor for details.

COURSE LISTINGS

Fieldwork requiring an additional fee for transportation may be required in any course and will be collected prior to the trip by a departmental representative.

Geography

GEOG 101 People and Their Environment 3 hrs, 3 cr; GER/2/B. Offered every sem. Survey of earth environment (atmosphere, land, water); how it varies spatially and how people interact with it. Contemporary economic, political, and social patterns and problems are discussed.

GEOG 150 World Regional Geography 3 hrs, 3 cr. Prereq: ENGL 120; GER/2/B; PD/A or D. Offered day. A survey of the world's major regions. Geographic concepts and principles are used to study the physical, economic, social and political conditions and problems in the culturally diverse world. Spatial expression of culture; specialized behavior patterns; adaptations and way of life in distinct environments. Regional interdependence; implications for development.

GEOG 221 Economic Geography 5 hrs (3 lec, 2 lab), 4 cr. Prereq: GEOG 101 or perm instr; GER/2/B. Not open to freshmen. Offered day/fall '02, evening/fall '03. Geographic factors influencing economic activity. Spatial organization of society. Location theories are stressed. Locational and commodity flow; analysis; regional economic development.

GEOG 226 Environmental Conservation: Resource Management 3 hrs, 3 cr; GER/2/B. Offered day/fall '02, evening/fall '03. Resources in relation to population. Policies, practices, and constraints in natural resources development. Energy crisis.

GEOG 227 Environmental Conservation: Urban Problems 3 hrs, 3 cr. Offered day/spring '03. Impact of people on nature, spatial distribution, quality, and adequacy of major physical resources of urban areas.

GEOG 241 Population Geography 3 hrs, 3 cr. Prereq: GEOG 101 or 150 or perm instr; PD/B or C. Offered day/spring. Geographic aspects, interpretation, and analysis techniques of fertility, mortality and migration. Population growth in relation to resource bases. Processes and impacts of immigration and urban ethnicity.

GEOG 251 Geography of the United States and Canada 3 hrs, 3 cr. Prereq: GEOG 101 or perm instr; GER/2/B. Offered day/spring. Analysis of the relationship of natural environment to economic, social, and political life of North America. Emphasis on U.S.

GEOG 260 Geography of New York State 3 hrs, 3 cr. Prereq: GEOG 101 or perm instr; GER/2/B. Offered on demand. Analysis of relationship of natural environment to economy and settlement pattern of the state. Land use, environmental problems.

GEOG 270 Regional Geography of Mexico, Central America and the Caribbean 3 hrs, 3 cr; PD/A. Offered day/fall '02, '04. Analysis of relationship of natural environment to economic, social, and political life of Mexico, Central America, and West Indies.

GEOG 271 Regional Geography of South America 3 hrs, 3 cr; PD/A. Offered day/fall '03. Analysis of relationship of natural environment to economic, social, and political life of South America.

GEOG 274 Regional Geography of the Middle East and North Africa 3 hrs, 3 cr; PD/A. Offered evening/fall '03. Analysis of relationship of natural environment to economic, social, and political life of Middle East and North Africa.

GEOG 275 Regional Geography of Sub-Saharan Africa 3 hrs, 3 cr; PD/A. Offered day/spring '03. Analysis of the relationship of natural environment to economic, social, and political life of Africa south of Sahara.

GEOG 277 Regional Geography of East Asia 3 hrs, 3 cr; PD/A. Offered day/spring '03. Analysis of East Asia's potentials in terms of natural resources, population, industry, and agriculture, with emphasis on China.

GEOG 278 Regional Geography of Russia and Central Asia 3 hrs, 3 cr. Prereq: None; PD/A or D. Offered day/fall '02. Analysis of the relationship of the natural environment to economic, social and political life of Russia, the former Soviet republics of Central Asia, and Mongolia.

GEOG 321 Transportation Geography 3 hrs, 3 cr. Prereq: GEOG 221 or perm. instr. Offered summer. A geographic study and modeling of transportation routes and their influences on the location of economic activity.

GEOG 328 Urban Environmental Problems: Evaluations and Solutions 3 hrs, 3 cr. Prereq: GEOG 101 or URBS 102 or GEOL 101 and Jr/Sr standing. Offered evening/fall. The special environmental problems of urban and metropolitan areas will be studied, including water supplies, waste management, environmental impact, and waterfront use. Natural physical processes, methodologies, and techniques will be reviewed and applied to decision making. Transportation fee for field work may be required.

GEOG 334 Political Geography 3 hrs, 3 cr. Prereq: GEOG 101, Jr/Sr only. Offered spring '04. Impact of environment on centrifugal and centripetal forces involved in well-being of states. Nation-states; law of the seas.

GEOG 335 International Pollution Issues 3 hrs, 3 cr. Prereq: GEOG 101 or GEOL 101 or PGEOG 130 pr perm. Instr. Offered day/fall. A study of international transboundary pollution and the science, source terms, transport pathways, and international impacts of contamination events. The regional focus will change yearly pending current global environmental events.

GEOG 341 Urban Geography 3 hrs, 3 cr. Prereq: GEOG 101 or perm instr; Jr/Sr only. Offered day/fall. Spatial analysis of functions of metropolitan areas. Social and economic characteristics of cities and suburbs. Land use and transportation patterns.

GEOG 342 Geography of International Migration and Ethnicity 3 hrs, 3 cr; PD/B. Offered evening/spring '03. Prereq: GEOG 241 or perm instr. Quantitative and qualitative examination of historic and contemporary international migration patterns. Spatial demographic impacts of immigration policy in the United States with a focus on major urban centers. Comparative analyses of ethnic and racial minorities in the United States.

GEOG 347 Cultural Geography 3 hrs, 3 cr. Prereq: GEOG 101 or perm instr; Jr/Sr only. Offered day/spring '03. Environmental impact of culture. Diffusion theory. Culture groups; language; architecture; landscapes. Perception.

GEOG 370 Geography of Sustainable Development in Developing Countries 3 hrs, 3 cr. Prereq: One of the following: GEOG 101, 150, 270, 271, 275, 277, or perm instr; PD/A. Offered day/fall '02. Analysis of factors that influence sustainable development, e.g., available resources, environment, population, food production, water supply in developing countries.

GEOG 371 Rural Water Supply in Developing Regions 3 hrs, 3 cr. Prereq: One of the following: GEOG 101, 150, 270, 271, 275, 277, or perm instr; PD/A. Offered day/spring '03. The quality, problems, management, and sustainability of rural water supply and sanitation in developing countries.

GEOG 372 Field Geography of Peru 90 hrs of fieldwork, 3 cr. Pre- and coreq: Acceptance into the Hunter College Peru Study Abroad Program; registration for GEOG 271 or dept. perm. GEOG 101 or GEOL 101 or PGEOG 130 strongly recommended. Offered summer '03. Regional field study of the geography of Peru. Topics include physical, environmental, historical, cultural, urban, political, agricultural, religious, and economic geographies in various ecological zones. Taught in English. Fee for transportation and accommodations required.

GEOG 380 Seminar in Geographic Concepts and Methodology 3 hrs, 3 cr, Jr/Sr only and perm instr. Offered spring '04. Investigations of evolution, conceptual framework, and methodological approaches of modern geography.

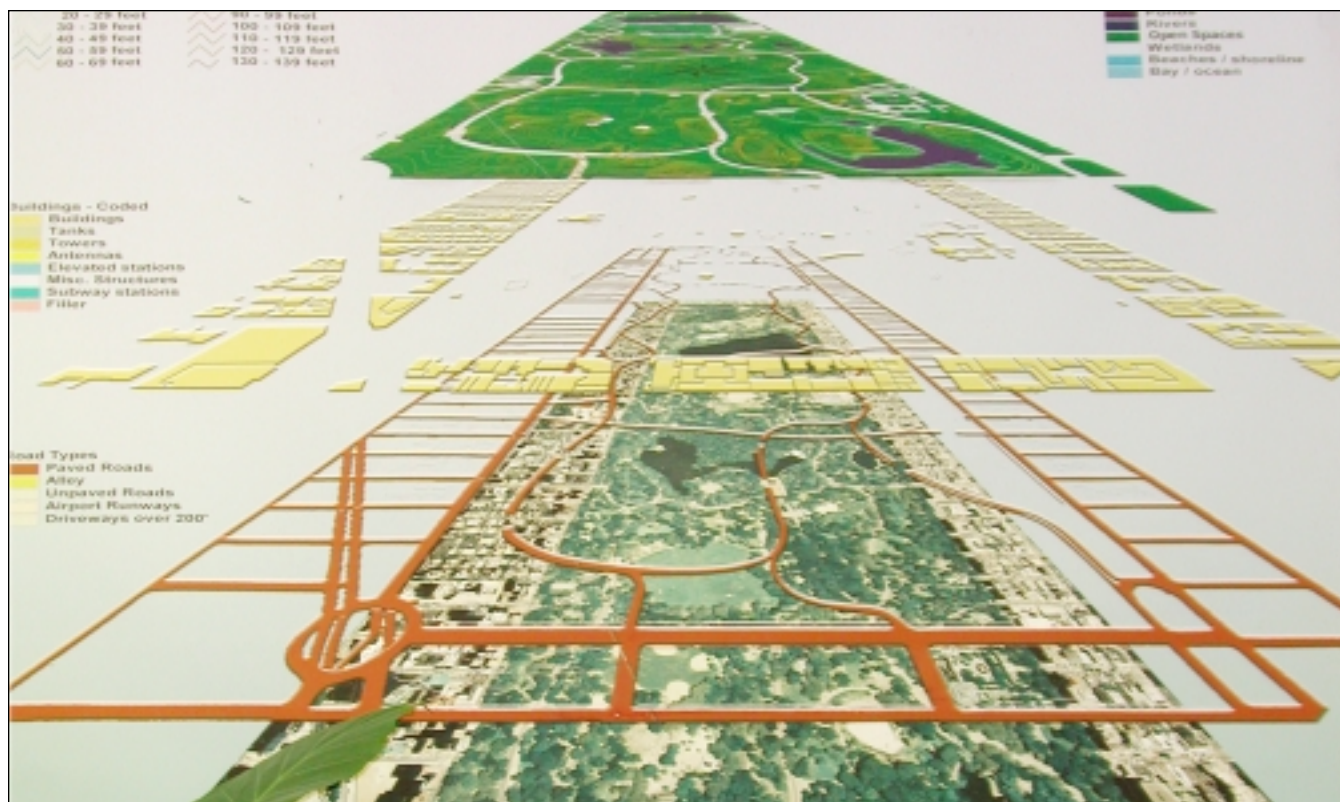
GEOG 381 Special Topics in Geography 1 or 2 hrs (1 lec or 2 lab), 1 cr. Prereq: GEOG 101, the 200-level course of which special topic is logical outgrowth, and perm instr; Jr/Sr only. Offered on demand. Topics to be announced.

GEOG 382 Special Topics in Geography 2 or 3 hrs (2 lec or 1 lec and 2 lab), 2 cr. Prereq: GEOG 101, the 200-level course of which special topic is logical outgrowth, and perm instr; Jr/Sr only. Offered on demand. Topics to be announced.

GEOG 383 Special Topics in Geography 3 or 4 hrs (3 lec or 2 lec and 2 lab), 3 cr. Prereq: GEOG 101, the 200-level course of which special topic is logical outgrowth, and perm instr; Jr/Sr only. Offered on demand. Topics to be announced.

GEOG 391 Individual Study in Geography 1 cr. Prereq: 2 sem of geography and perm dept. Individual study and reading, with lab or fieldwork where appropriate, carried out under faculty guidance.

GEOG 392 Individual Study in Geography 2 cr. Prereq: 2 sem of geography and perm dept. Individual study and reading, with lab or fieldwork where appropriate, carried out under faculty guidance.



GEOG 393 Individual Study in Geography 3 cr. Prereq: 2 sem of geography and perm dept. Individual study and reading, with lab or fieldwork where appropriate, carried out under faculty guidance.

GEOG 490 Honors in Geography 1 sem, 3 cr. Prereq: upper Jr/Sr geography majors only with perm dept. Individual research to be carried out under faculty guidance. Results must be embodied in an honors essay or equivalent.

GEOG 498 Internship 1-4 cr. Prereq: open to qualified geography majors and minors, upper Jr/Sr only. Opportunities for working in positions of responsibility in professional institutions for academic credit. See undergraduate advisor.

Physical Geography

PGEOG 130 Physical Geography I: Weather and Climate 5 hrs (3 lec, 2 lab), 4 cr; GER/2/E. Offered every sem. Principles of meteorology and climatology; elements of weather; current weather analysis; weather maps; forecasting; patterns and characteristics of world climate, climatic change.

PGEOG 231 Physical Geography II: Principles of Geomorphology 4 hrs (2 lec, 2 lab), 3 cr. Prereq.: PGEOG 130 or GEOL 101; GER/2/E. Offered day/spring. Study of landforms and their evolution. Emphasis is placed on topographic expression of geologic structures and features.

PGEOG 332 Hydrology 3 hrs, 3 cr. Prereq: GEOL 101, PGEOG 130, or perm instr. (Credit may be earned for either PGEOG or GEOL 332 but not both.) Offered day/fall '02. Examination of the storage and flux of water on and near the earth's surface; problems of water supply, quality, and management.

PGEOG 334 Coastal Geomorphology 3 hrs, 3 cr. Prereq: PGEOG 231 or equivalent or perm dept. Offered eve/fall. A study of the basic processes shaping the coast and the resulting form; surficial morphology and internal geometry of such forms as cliffs, dunes, beaches and nearshore bars. Map exercise and a one-day field trip.

PGEOG 361 Global Climatic Change 3 hrs, 3 cr. Prereq: PGEOG 130 or GEOL 101 or 105 and Jr/Sr standing. Offered day/spring. Examination of Quaternary, Quaternary, postglacial, historical and instrumentally recorded climates. Greenhouse gases, aerosols, radiative forcing, processes and modeling. Detecting the greenhouse effect, sea level rise and effects on ecosystems.

PGEOG 381 Special Topics in Environmental Studies 1 or 2 hrs (1 lec or 2 lab), 1 cr. Prereq: One of the following: GEOL 105, GEOG 226, or PGEOG 130, plus the course of which special topic is a logical outgrowth, and perm instr; Jr/Sr only. Offered on demand. Topics to be announced.

PGEOG 382 Special Topics in Environmental Studies 2 or 3 hrs (2 lec or 1 lec and 2 lab), 2 cr. Prereq: One of the following: GEOL 105, GEOG 226, or PGEOG 130, plus the course of which special topic is a logical outgrowth, and perm instr; Jr/Sr only. Offered on demand. Topics to be announced.

PGEOG 383 Special Topics in Environmental Studies 3 or 4 hrs (3 lec or 2 lec and 2 lab), 3 cr. Prereq: One of the following: GEOL 105, GEOG 226, or PGEOG 130, plus the course of which special topic is a logical outgrowth, and perm instr; Jr/Sr only. Offered on demand. Topics to be announced.

PGEOG 391 Individual Study in Environmental Studies 1 cr. Prereq: GEOL 105, GEOG 226, and PGEOG 130 and perm dept. Individual study and reading, with lab or fieldwork where appropriate, carried out under faculty guidance.

PGEOG 392 Individual Study in Environmental Studies 2 cr. Prereq: GEOL 105, GEOG 226, and PGEOG 130 and perm dept. Individual study and reading, with lab or fieldwork where appropriate, carried out under faculty guidance.

PGEOG 393 Individual Study in Environmental Studies 3 cr. Prereq: GEOL 105, GEOG 226, and PGEOG 130 and perm dept. Individual study and reading, with lab or fieldwork where appropriate, carried out under faculty guidance.

PGEOG 490 Honors in Environmental Studies 1 sem, 3 cr. Prereq: upper Jr/Sr environmental studies majors only with perm dept. Individual research to be carried out under faculty guidance. Results may be embodied in an honors essay or equivalent.

PGEOG 498 Internship in Environmental Studies 1-4 cr. Prereq: open to qualified environmental studies majors and minors, upper Jr/Sr only. Opportunities for working in positions of responsibility in professional institutions for academic credit. See environmental studies faculty advisor.

Geographic Techniques and Methods

GTECH 201 Introduction to Mapping and Geographic Information Sciences 6 hrs (2 lec, 4 lab), 4 cr. Pre- or coreq: GEOG 101, MATH 125 and 126 or equiv, or perm instr. Offered every semester. A survey of the basic principles of map design, map data analysis, cartography, geographic information science (GIS), remote sensing, and air photo interpretation in the classroom, laboratory and field, including the use of computers for geoscience applications.

GTECH 301 Quantitative Methods in Geography 3 hrs, 3 cr. Prereq: GTECH 201 and either STAT 113 or 213 or perm instr. Jr/Sr standing. Offered on demand. Process of spatial analysis. Application of scientific methods to geographic research; sampling; distribution measurement; statistical analysis of spatial data.

GTECH 321 Remote Sensing 6 hrs (2 lec, 4 lab), 4 cr. Prereq: GTECH 201 and Jr/Sr standing or perm instr. Offered day/fall '02; evening/fall '03. Remote sensing systems (multi-spectral, signature ID, digital image analysis), theory and applications.

GTECH 350 Field Topographic Surveying 90 hrs of field and lab work (1 day lab and 10 days fieldwork), 3 cr. Prereq: GTECH 201 and perm instr. Offered summer intersession; check with dept in April. Field use of surveying equipment. Notebook and computer data collection relating to horizontal and vertical location on the landscape, including the use of global positioning systems. Field record-keeping and preliminary analysis of results. Fee for transportation, accommodations and food allowance required.

GTECH 351 Field Techniques in Geography 90 hrs of field and lab work (3 days lab and 7 days fieldwork), 3 cr. Prereq: GTECH 201 and any two other geography or geology courses, and perm dept. Offered summer intersession; check with dept in April. Observation and analysis of physical geography, biogeography and geomorphology of selected areas. Field geographic techniques such as ground-truthing of remotely sensed images, the use of maps, compasses, and GPS to navigate. Fee for transportation, lodging, and food allowance required.

GTECH 361 Geographic Information Science I 4 hrs (2 lec, 2 lab), 3 cr. Prereq: GTECH 201. Offered evening/spring '03, day/spring '04. The basic principles and operation of geographic information systems (GIS) are covered; computerized systems for the capture, storage, management, analysis and display of geographically referenced data and their attributes. Laboratory exercises will provide extensive hands-on experience with a professional GIS software package.

GTECH 362 Geographic Information Science II 4 hrs (2 lec, 2 lab), 3 cr. Prereq: GTECH 361, STAT 113. Offered evening/fall. Theoretical and practical aspects of geographical information science (GIS) are discussed in detail. Laboratory use of advanced GIS software, including GIS programming concepts, are covered.

GTECH 380 Analytical and Computer Cartography 4 hrs (2 lec, 2 lab), 3 cr. Prereq: GTECH 201. Offered evening/fall '02, day/fall '03. Role of computer in contemporary mapping; theoretical issues and practical mapping assignments, using cartographic software.

GTECH 385 GIS Applications 3 hrs, 3 cr Prereq: GTECH 201 or equivalent. Offered every semester. Selected topics in GIS applications to human and physical geographic problems. See department for topics offered.

Geology

GEOL 101 Fundamentals of Geology 6 hrs (3 lec, 3 lab), 4.5 cr; GER/2/E. Offered every sem. Plate tectonic theory; volcanism, earthquakes, continental drift, mountain-building. Mineral deposits, fossil fuels. Erosional processes, agents. Hazards. Lab: study of minerals, rocks, maps. Field trips may be required; transportation fee.

GEOL 102 Plate Tectonics and the Earth's Evolution 5 hrs (3 lec, 2 lab), 4 cr. Prereq: GEOL 101; GER/2/E. Offered spring. Study of earth from solar system's inception to present. Evolution of its crust, atmosphere, hydrosphere. Record of life. Lab: study of fossils, sedimentary facies, cross-sections, maps. Field trips may be required; transportation fee.

GEOL 105 Introduction to Environmental Geoscience 3 hrs, 3 cr. Prereq: ENGL 120. Offered day/fall. Introduction to environmental geoscience focusing on aspects of global change and the interrelationship of earth systems. Review of the evolution of the earth from its origins to potential future developments; environmental problems and issues.

GEOL 180 Introduction to Oceanography 3 hrs, 3 cr. GER/2/E; non-lab. Offered day/fall '03. Properties of sea water, description of the state and biology of the oceans, ocean floor topography, basic ocean currents and general circulation, methods of exploration and research.

GEOL 205 Environmental Geology 3 hrs, 3 cr. Prereq: GEOL 101. Offered evening/spring '03, day/spring '04. Geology's role in understanding and solving such problems as hazards, water supply, drainage, construction, waste disposal, and health. Land use analysis and planning.

GEOL 280 Marine Geology 3 hrs, 3 cr. Prereq: GEOL 102 or perm instr. Offered day/spring '03. Morphology of ocean floor. Genesis and distribution of marine sediments. Use of geophysical and oceanographic data.

GEOL 332 Hydrology 3 hrs, 3 cr. Prereq: GEOL 101, PGEOG 130, or perm instr. (Credit may be earned for either GEOL or PGEOG 332, but not both.) Offered day/fall '02. Examination of the storage and flux of water on and near the earth's surface; problems of water supply, quality, and management.

GEOL 381 Special Topics in Geology and Oceanography 1 or 2 hrs (1 lec or 2 lab), 1 cr. Prereq: the 200-level course of which special topic is logical outgrowth and perm dept. Offered on demand. Intensive course in various aspects of geology or oceanography. Topics to be announced.

GEOL 382 Special Topics in Geology and Oceanography 2 or 3 hrs (2 lec or 1 lec and 2 lab), 2 cr. Prereq: the 200-level course of which special topic is logical outgrowth and perm dept. Offered on demand. Intensive course in various aspects of geology or oceanography. Topics to be announced.

GEOL 383 Special Topics in Geology and Oceanography 3 or 4 hrs (3 lec or 2 lec and 2 lab), 3 cr. Prereq: the 200-level course of which special topic is logical outgrowth and perm dept. Offered on demand. Intensive course in various aspects of geology or oceanography. Topics to be announced.

GEOL 391 Individual Study in Geology 1 cr. Prereq: 2 sems of geology and perm dept. Individual study and reading, with lab or fieldwork where appropriate, carried out under faculty guidance.

GEOL 392 Individual Study in Geology 2 cr. Prereq: 2 sems of geology and perm dept. Individual study and reading, with lab or fieldwork where appropriate, carried out under faculty guidance.

GEOL 393 Individual Study in Geology 3 cr. Prereq: 2 sems of geology and perm dept. Individual study and reading, with lab or fieldwork where appropriate, carried out under faculty guidance.

Courses that will be not be offered during the 2002-2004 academic years:

GEOG 210	Elementary Field Geography
GEOG 211	Field Geography of New York City and Vicinity
GEOG 242	Medical Geography
GEOG 272	Regional Geography of Europe
GEOG 348	Geography of Religion
GTECH 320	Interpretation of Aerial Photography
GTECH 322	Advanced Image Interpretation
PGEOG 212	Geography of Soils and Vegetation
GEOL 211	Field Geology of New York City and Vicinity
GEOL 233	Geology of North America
GEOL 244	Sedimentology
GEOL 248	Principals of Stratigraphy