

GENETICS GEN

College of Natural Science

- 800. Genetics Seminar**  
*Fall, Winter, Spring. 1(1-0) May reenroll for a maximum of 12 credits. Approval of director.*  
Student seminar to cover genetics subjects not considered in formal courses. Course is also intended to give students experience in reviewing and organizing literature in a subject, and orally presenting and defending the analysis.
- 804. Gene Transmission**  
*Fall. 3(3-0) ZOL 441 or approval of instructor.*  
Molecular and formal genetic studies of the replication, recombination, repair and segregation of genetic information in prokaryotes and eukaryotes. Experimental design and methodology will be emphasized.
- 805. Genetic Organization, Action and Regulation**  
*Winter. 3(3-0) GEN 804.*  
Molecular and formal genetic studies of the organization, expression and regulation of gene activity in prokaryotes and eukaryotes. Experimental design and methodology will be emphasized.
- 806. Population and Quantitative Genetics**  
*Spring. 3(3-0) ZOL 441 or approval of instructor.*  
Genetics of quantitative characteristics in populations with special reference to polygenic variation and its interactions with environment, gene action and its measurement, mating systems, and selection.
- 844. Plant Organelle Genetics**  
*Winter of odd-numbered years. 3(3-0) Approval of department. Interdepartmental with the departments of Botany and Plant Pathology, Crop and Soil Sciences, Forestry, and Horticulture. Administered by the Department of Horticulture.*  
Organization, structure, function, heredity, molecular biology and manipulation of chloroplasts and mitochondria. Biological interactions between the nucleus and organelles.
- 856. Plant Genetics and Molecular Biology**  
*Spring of even-numbered years. 3(3-0) Approval of department and a course in introductory genetics. Interdepartmental with the departments of Biochemistry, and Botany and Plant Pathology. Administered by the Department of Botany and Plant Pathology.*  
Recent advances in genetics and molecular biology of higher plants.
- 880. Special Problems**  
*Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 12 credits. Approval of instructor.*  
Students with special interests and abilities may study published literature in a selected genetics topic or they may carry on research in the laboratory on a selected subject in collaboration with genetics faculty.
- 890. Selected Topics in Genetics**  
*Fall, Winter, Spring, Summer. 2 to 5 credits. May reenroll for a maximum of 9 credits. ZOL 441 and approval of instructor.*  
Topics will be selected from molecular genetics, physiological genetics, population genetics, quantitative genetics, evolution, radiology and mutagenesis, microbial genetics, somatic cell genetics, behavioral genetics, and human genetics.

- 976. Multivariate Methods in Forestry Research**  
*Winter of even-numbered years. 4(4-0) MTH 334, STT 423, CPS 120.*

Application of multivariate techniques such as principal components, canonical analysis, factor analysis, and clustering to problems in forestry research. Case studies drawn from several forestry disciplines.

- 999. Doctoral Dissertation Research**  
*Fall, Winter, Spring, Summer. Variable credit. Approval of department.*

FRENCH

See Romance and Classical Languages.

GENERAL BUSINESS—  
AND BUSINESS LAW GBL

(Name change effective July 1, 1984. Formerly the Department of Business Law and Office Administration.)

College of Business and Graduate  
School of Business Administration

- 341. Survey of Business Law**  
*(BOA 341.) Fall, Winter, Spring. 4(4-0) Juniors. Not open to students with majors in the College of Business.*  
Historical development of the law; courts, court procedures and civil remedies, torts, crimes; contracts, agency, sales, negotiable instruments, real and personal property, including bailments and liens. Textbook and lecture rather than case approach.

- 345. Business Ethics**  
*Fall. 4(4-0) Juniors. Interdepartmental with and administered by the Department of Philosophy.*  
Ethical dimensions of the relationships between a business and employees, consumers, other businesses, society, government, and the law. Readings from philosophical and business sources.

- 400H. Honors Work**  
*(BOA 400H.) Fall, Winter, Spring, Summer. 1 to 15 credits. Approval of department.*  
Independent and informal study in law, office administration or business communications.

- 430. Law and Society**  
*(BOA 440., 440.) Fall, Winter, Spring, Summer. 4(4-0) Seniors or approval of instructor; may not earn credit in both GBL 430 and GBL 441.*  
Legal reasoning and legal institutions. Court systems and court procedures. Contracts and sales. Sources of and limits on legislative and judicial authority. Property, torts, and crimes.

- 431. Law and Business**  
*Fall, Winter, Spring, Summer. 4(4-0) GBL 430.*  
Law of business associations, administrative agencies and process, the constitution and the business enterprise, liability to consumers, securities, regulation of business conduct and structure, business ethics and social responsibility.

- 441. Contracts and Sales**  
*(BOA 441.) Fall, Winter, Spring, Summer. 3(3-0) Seniors or approval of instructor; may not earn credit in both GBL 430 and GBL 441.*

Contracts, including concept of freedom of contract and limitations. Sales. Case study method.

- 442. Agency, Partnerships and Corporations**  
*(BOA 442.) Winter, Spring. 3(3-0) GBL 441.*

The law dealing with agency and business organizations. Case study method.

- 443. Negotiable Instruments, Secured Transactions, Property**  
*(BOA 443.) Winter, Spring. 3(3-0) GBL 441.*

The law of negotiable instruments, secured transactions, and property. Case study method.

- 447. Hotel Law**  
*(BOA 447.) Winter, Spring. 4(4-0) GBL 440.*  
Legal aspects of the hospitality industry.

- 468. Field Studies**  
*(BOA 468.) Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 8 credits. Approval of department.*

Planned program of observation and work in selected business firms. Analysis and reports.

- 805. Business Ethics**  
*Spring. 4(4-0) Graduate student in the College of Business or approval of instructor. Interdepartmental with and administered by the Department of Philosophy.*  
Ethical dimensions of such topics as corporate responsibility, preferential hiring, profit and taxation, deception and bribery, self-regulation versus government regulation, 'whistleblowing', and advertising. Readings from philosophical and business sources.

- 848. The Legal Environment of Business**  
*(BOA 848.) Fall, Summer. 4(4-0)*  
Critical examination of the environment in which business operates. Analysis of the component elements of the legal environment of business and the structural framework in which law functions.

- 878A. Seminar in Business Law**  
*(BOA 878A.) Winter. 4(4-0) GBL 848 or approval of department.*

Contracts, sales, secured transactions and consumer legislation viewed from the judicial, legislative and executive vantage points.

- 878B. Seminar in Business Law**  
*(BOA 878B.) Spring. 4(4-0) GBL 848 or approval of department.*

Agency, partnerships and corporations, viewed from legislative, judicial and executive vantage points, as they affect entrepreneurial decision making.

- 890. Special Problems**  
*(BOA 890.) Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 8 credits. Approval of department.*

## Descriptions — Genetics

### of

### Courses

**999. Doctoral Dissertation Research**  
Fall, Winter, Spring, Summer. 3 to 12 credits. Majors.  
Research for the doctoral dissertation in genetics.

## GEOGRAPHY

## GEO

### College of Social Science

**100. People, Location and Environment (S)**  
Fall, Winter, Spring, 4(4-0) Not open to Geography majors.  
Relationships between people and environments, their spatial consequences and resulting regional structures across the earth's surface.

**122. The World of Maps**  
Fall, Winter, Spring, 3(3-0)  
Discussion of types, practical applications, and sources of maps. Map reading skills.

**150. Geography of Selected Current Problems**  
Fall, Winter, Spring, 2(2-0)  
The geographic perspective is used to examine U.S. and world problems of major concern such as international conflicts, environment quality, spatial change, and economic development.

**170. Future Worlds (S)**  
Fall, Spring, Summer, 3(3-0)  
Geographical approach to environmental, biological, economic, social and political problems facing mankind between now and year 2000.

**201. Geography of Culture**  
Fall, Winter, Spring, 3(3-0)  
A systematic discussion of cultural geography, stressing cultural processes and relationships.

**203. Resource Ecology**  
(IDC 200.) Fall, Winter, Spring, Summer, 3(3-0) Interdepartmental with the departments of Fisheries and Wildlife, Forestry, Resource Development, and Zoology. Administered by the Department of Fisheries and Wildlife.  
Basic concepts of ecology which are the unifying basis for resource management, conservation policy and the analysis of environmental quality. Extensive use of guest lecturers.

**204. World Regional Geography (S)**  
Fall, Winter, Spring, Summer, 4(4-0)  
Human relationships with natural and cultural environments.

**206. Physical Geography**  
Fall, Winter, Spring, Summer, 4(4-0)  
Analysis of weather, climate, landforms, soils, water and biotic factors of the human environment, including its spatial, genetic, and functional interrelationships.

**206L. Physical Geography Laboratory**  
Fall, Winter, Spring, 1(0-2) GEO 206 or concurrently.  
Laboratory study of geographic aspects of map interpretation, aerial photographs, weather, climate, soils, landforms, and vegetation.

**213. World Economic Geography**  
Fall, Winter, Spring, Summer, 4(4-0)  
Emphasis on distribution of natural resources, industries and service activities, stressing factors of location and economic concepts of locational change.

**223. Introduction to Cartography**  
Fall, Spring, 4(2-4)  
Principles and techniques of constructing maps. Mapping methods and mapping decisions emphasized.

**224. Remote Sensing: Airphoto Interpretation**  
Fall, Winter, Spring, 4(2-4) Sophomores.  
Use of aerial photographs in the identification and interpretation of physical and cultural features of the terrestrial environment. Includes principles of photogrammetry, and stresses application and practice.

**IDC. Introduction to Contemporary China**  
For course description, see Interdisciplinary Courses.

**IDC. Contemporary Japan**  
For course description, see Interdisciplinary Courses.

**300. North America**  
Fall, Winter, Spring, 3(3-0)  
Human and physical geography of North America, north of the Mexican border.

**307. Geography of Environmental Quality**  
Spring, 3(3-0) Sophomores or approval of department.  
Identification of the physical, cultural and psychological factors which constitute human environments, and how they vary and may be modified or controlled.

**309. Geography of Recreation**  
Winter, 3(3-0)  
Natural and cultural factors influencing the use of space for recreation. Emphasis on recreation land use in the United States and current problems and conflicts.

**310. Historical Geography of the United States**  
Spring, 3(3-0)  
Reconstruction of geographies of the United States as they existed in the past.

**315. South America**  
Spring, 3(3-0) Sophomores or approval of department.  
Regional geography of South America with special attention to contemporary geographic problems.

**316. Middle America**  
Winter, 3(3-0) Sophomores or approval of department.  
Interpretation of physical and cultural environment of Mexico, Central America, and the West Indies. Special attention to contemporary geographic problems.

**318. Cities of the World**  
Fall, Winter, Spring, 3(3-0)  
A cross-cultural examination of cities, their historic growth, regional functions, and internal dynamics.

**320. Geography of Population**  
Fall, 3(3-0)  
Relationship of the size, composition, and distribution of population to geographic variations in the nature of places.

**321. Africa**  
Fall, 3(3-0) Sophomores or approval of department.  
Emphasis on continent south of Sahara: environments, peoples, problems, and potentials.

**322. Africa: Contemporary Problems**  
Spring, 3(3-0) Sophomores or approval of department. GEO 321 recommended.  
Major development problems examined from environmental, historical, economic, and social perspectives.

**340. Western Europe**  
Winter, 3(3-0) Sophomores or approval of department.  
Geographic analysis of physical and human character and resources of Western Europe (Scandinavia, British Isles, Benelux, Germany, France and Switzerland). Emphasis on major problems.

**IDC. Contemporary South Asia**  
For course description, see Interdisciplinary Courses.

**342. Eastern and Southern Europe**  
Spring, 3(3-0) Sophomores or approval of department.  
A geographical analysis of countries of Eastern and Southern Europe with emphasis on economic, political, social and ethnic problems.

**351. Weather and Climate**  
Fall, 3(3-0)  
Non-mathematical treatment of general weather processes and patterns, including surface and middle atmospheric (jet stream) features, with emphasis on the U.S.

**360. The Soviet Union**  
Fall, 3(3-0) Sophomores or approval of department.  
A geographical analysis of the Soviet Union and its inhabitants with emphasis on economic, social, political and ethnic problems.

**365. China**  
Winter, 3(3-0)  
The physical and human geography of China and their relationship to the development problems of the country, with emphasis on the post-1949 period.

**400H. Honors Work**  
Fall, Winter, Spring, 1 to 16 credits.  
Approval of department.

**401. The Ghetto**  
(UMS 401.) Fall, Spring, 4(4-0) Juniors or approval of department.  
Analysis of the ghetto including its spatial organization, structure and distribution of nonwhite and ethnic populations in cities with emphasis on the United States.

**402. The Geography of the City**  
Spring, 3(3-0)  
Spatial theories, concepts, and designs of internal urban economic, social, and political structures.