

830. Physiological Genetics

Winter. 3(3-0) Approval of department. Interdepartmental with Crop Science.

Physiological bases for genetic variation in higher plants including adaptive physiology, quantitative genetics, growth correlations, biochemical genetics, hybrid physiology, and geneecology.

850. Administering the Public Land Agency

Spring. 4(4-0) 450 or approval of department.

Case studies of administrative problems in land management agencies. Students are organized as teams and prepare team reports on specified aspects of each case.

851. Public Program Budgeting

Fall. 3(3-0) Approval of department. Interdepartmental with the Resource Development Department.

Survey of the federal government's planning-programming-budgeting system, stressing executive branch budget decision-making and budget administration in the natural resource bureaus.

855. Research Methods

Fall. 3(3-0) Approval of department. Interdepartmental with and administered by the Resource Development Department.

Research techniques applicable to management, and policy-oriented natural resource investigations. Analysis of project designs; preparation of project proposals. Evaluation of representative published research studies.

899. Research

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

960. Simulation Models in Natural Resource Management

Winter of odd-numbered years. 3(3-0) Approval of department. Interdepartmental with and administered by the Resource Development Department.

The role of simulation models in developing management strategies. Applications of computer simulation in natural resources. Modeling of decision systems in natural resources management.

999. Research

Fall, Winter, Spring, Summer. Variable credit. Approval of department.

FRENCH

See Romance Languages

GENETICS

GEN

College of Natural Science

800. Genetics Seminar

Fall, Winter, Spring. 1(1-0) May re-enroll 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.

801. Molecular Genetics

Fall. 3(3-0) ZOL 441 or approval of instructor.

Molecular genetics. Chemical nature of the gene, inter- and intra-genetic recombination, genetic organization and gene action.

802. Population and Quantitative Genetics

Winter. 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.

803. Modern Genetics in Evolution

Spring. 3(3-0) ZOL 441 or approval of instructor.

Genetic basis of evolution. Cellular, chromosomal, and mutational bases of genetic variability. Natural selection and protein variations. Diversity of evolution.

880. Special Problems

Fall, Winter, Spring, Summer. 1 to 4 credits. May re-enroll 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 re-enroll 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.

999. Research

Fall, Winter, Spring, Summer. 3 to 12 credits. Majors.

Research for the doctoral dissertation in genetics.

GEOGRAPHY

GEO

College of Social Science

Courses are classified as follows:

- Cultural—170, 201, 404, 801, 901.
- Economic—213, 409, 412, 413, 435, 454, 806, 807, 809, 835, 906.
- Field Techniques—415, 850.
- Geographic Education—327W, 458, 858.
- Historical—310, 810, 910.
- Independent Research—400H, 411, 480, 818, 899, 918, 999.
- Medical—470, 870, 970.
- Physical—203, 206, 206L, 429, 430, 431, 432, 451, 834, 902.
- Political—170, 416, 808, 908.
- Population—215, 320, 836, 934.
- Quantitative Methods—427, 428, 811.
- Regional—203, 204, 300, 304, 314, 315, 316, 319, 321, 322, 340, 342, 350, 360, 361, 362, 363, 364, 812, 912.
- Recreational and Environmental—100, 307, 309, 828.
- Theory and Philosophy—150, 280, 425, 480, 825, 826, 827.
- Urban—318, 401, 402, 403, 805.
- Visual Media and Techniques—122, 223, 224, 424, 426, 436.

122. The World of Maps

(222.) Fall. 3(3-0)

Discussion of types, practical applications, and sources of maps.

150. Geography of Selected Current Problems

Winter. 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

Fall, Spring, Summer. 2(2-0)

Geographical approach to environmental, biological, economic, social and political problems facing mankind between now and year 2000.

IDC. Resource Ecology and Man

For course description, see Interdisciplinary Courses.

201. Geography of Culture

(401., 301.) Fall, Winter, Spring, Summer. 4(3-0)

A systematic discussion of cultural geography, stressing cultural processes and relationships.

IDC. Introduction to Study of the Moon

For course description, see Interdisciplinary Courses.

204. World Regional Geography

Fall, Winter, Spring, Summer. 4(4-0)

Man's relationship 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 man's environment, including their spatial, genetic, and functional interrelationships.

206L. Physical Geography Laboratory

Fall, Winter, Spring. 1(0-2) 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. 3(3-0)

Emphasis on distribution of natural resources, industries and service activities, stressing factors of location and economic concepts of locational change.

215. World Food Issues

Spring. 3(3-0) Interdepartmental with Food Science.

Food resources as related to world distributions of population, soil, water, fuel and minerals. Special attention to urbanization, irrigation, and future food needs and global constraints.

223. Introduction to Cartography

Fall, Winter, Spring. 4(2-4)

Principles and techniques of constructing maps and other graphic devices. Types of map reproduction.

224. Remote Sensing: Airphoto Interpretation

(324.) Fall, Winter. 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.

280. Perspectives on Geography

Spring. 2(2-0)

Introduction to the profession of geography for majors.