

**491. Natural Resources and Modern Society**

*Spring. 3(3-0) Juniors. Interdepartmental with Agriculture and Natural Resources and the Department of Resource Development.*

A survey of the social and economic significance of natural resources in modern industrial and urban society. Current problems of natural resources management and use are examined in terms of the society in which they exist.

**804. Forest Ecology**

*Winter. 3(3-0) Approval of department.*

Theories, methods of analysis, and discussion of current investigations of energy, nutrients, and biomass dynamics in forest ecosystems.

**807. Special Problems**

*Fall, Winter, Spring, Summer. 2 to 5 credits. May reenroll for credit with a maximum of 10 credits. Approval of department.*

Advanced study in administration, biometrics, photogrammetry, dendrology, silviculture, management, economics, ecology, genetics, arboriculture, hydrology, soils, recreation, physiology, policy, entomology, products harvesting, wood preservation, timber mechanics, wood conversion, fire, range management, extension and pathology.

**809. Natural Resources Economics**

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

Applications of economic analysis to natural resource problems.

**828. Seminar**

*Fall. 1(1-0)*  
Critical study and discussion of advanced forestry topics.

**830. Physiological Genetics**

*Winter. 3(3-0) Approval of department. Interdepartmental with the Department of Crop and Soil Sciences.*

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

**835. Silviculture**

*Fall. 3(3-0) FOR 305 or approval of department.*

Biological basis of intensive forest management including seedling production, site evaluation and preparation, plantation establishment, intermediate stand treatments and natural reproduction methods. Field trip optional.

**840. Recreation Economics**

*Spring. 4(4-0) FOR 809 or approval of instructor. Interdepartmental with the departments of Park and Recreation Resources, and Resource Development. Administered by the Department of Park and Recreation Resources.*

Applications of economic analysis to recreation resource problems including measurement of demand and supply, valuation of recreation resources, determination of economic impact, economic decision making and policy considerations.

**845. Forest Policy**

*Fall. 3(3-0) Approval of department.*  
The dynamics and process of forest policy making.

**850. Administering the Public Land Agency**

*Spring. 4(4-0) FOR 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.

**855. The Research Process in Natural Resources**

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

Research and decision processes as applied in natural resource investigations. Research organization and applications of research results. Oriented to management, social science, and policy studies. Preparation of project proposals.

**899. Master's Thesis Research**

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

**909. Timber Economics**

*Fall of odd-numbered years. 3(3-0) FOR 457, FOR 809, EC 800, EC 801, EC 802.*

Economic theory relevant to study of timber production, regional and national timber supply, demand and price, the effect of institutional factors, and other topics by review of past research.

**910. Resource Economics Proseminar**

*Spring. 3(3-0) May reenroll for a maximum of 9 credits. Approval of department. Interdepartmental with the departments of Agricultural Economics and Resource Development.*

A seminar wherein advanced graduate students in the fields of resource economics participate with faculty in the joint conduct of a major research project in resource economics and policy.

**960. Simulation Models in Natural Resource Management**

*Winter of odd-numbered years. 3(3-0) RD 855 and knowledge of FORTRAN programming or approval of department. Interdepartmental with and administered by the Department of Resource Development.*

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

**975. Least Squares Analysis and Linear Programming in Forestry Research**

*Fall of odd-numbered years. 4(4-0) MTH 112, STT 423, CPS 110 or CPS 120.*

Application of least squares analysis and linear programming to problems in forestry research. Include both linear and nonlinear least squares models. Case studies from several forestry disciplines.

**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 —  
BUSINESS LAW  
PROGRAMS GBL**

(Name change effective July 1, 1982. Formerly the Department of Business Law and Office Administration.)

**College of Business**

**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.

**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.

**440. Law and Society**

*(BOA 440.) Fall, Winter, Spring, Summer. 3(3-0) Seniors or approval of department.*

Legal reasoning and legal institutions., Court systems and court procedures. Relationships of citizens and business people to governmental agencies. Torts, crimes.

**441. Contracts and Sales**

*(BOA 441.) Fall, Winter, Spring, Summer. 3(3-0) GBL 440.*

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*

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*

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

**447. Hotel Law**

*(BOA 447.) Winter, Spring. 4(4-0) GBL*

Legal aspects of the hospitality industry.

**468. Field Studies**

*(BOA 468.) Fall, Winter, Spring, Summer. Variable credit. May reenroll for a maximum of 8 credits. Approval of department.*

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

**Descriptions – General Business–Business Law Programs  
of  
Courses**

**805. Business Ethics**  
(BOA 805.) 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. Variable credit. Approval of department.

**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.

**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.

**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**

Courses are classified as follows:  
Cultural—170, 201, 801, 901.  
Economic—213, 409, 435, 809, 835, 906.  
Field Techniques—415, 850.  
Geographic Education—458.  
Historical—310, 810, 910.  
Independent Research—400H, 411, 818, 899, 918, 999.  
Medical—470, 870, 970.  
Physical—206, 206L, 429, 430, 431, 432, 451, 834, 902.  
Political—170, 908.  
Population—320, 836, 934.  
Quantitative Methods—427, 428, 811.  
Regional—204, 300, 315, 316, 321, 322, 340, 342, 360, 365, 812, 912.  
Recreational and Environmental—100, 307, 309, 828.  
Theory and Philosophy—150, 425, 825, 826.  
Urban—318, 401, 402, 403, 466, 805.  
Visual Media and Techniques—122, 223, 224, 424, 426, 446.

**100. Man, Location and Environment**  
Fall, Winter, Spring. 3(3-0)  
Concepts, theory, and methods of modern Geography.

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

**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.

**IDC. Introduction to Resource Ecology**  
For course description, see Interdisciplinary Courses.

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

**204. World Regional Geography (S)**  
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) 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, Winter, Spring. 4(2-4)  
Principles and techniques of constructing maps and other graphic devices. Types of map reproduction.

**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.

**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 procaryotes and eucaryotes. 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 procaryotes and eucaryotes. Experimental design and methodology will be emphasized.