GENERAL BUSINESS AND BUSINESS LAW

GBL

(Name change effective July 1, 1984.Formerly theDepartment of Business Law andOffice Administration.)

College of Business and Graduate School of Business Administration

341. Survey of Business Law
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 its employees, consumers, other businesses, society, government, and the law. Readings from philosophical and business sources.

40H. Honors Work
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
Fall, Winter, Spring. 4(4-0) Seniors or approval of instructor.
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. 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.

447. Hotel Law
Winter, Spring. 4(4-0) GBL 430.
Legal aspects of the hospitality industry.

450. Contracts and Business Organization
Fall, Winter, Spring. 4(4-0) Law of contracts, including concept of freedom of contract and limitations, agency, and business organizations, including sole proprietorships, partnerships, and corporations. Accountant's professional responsibility.

451. Commercial Transactions
Fall, Winter, Spring. 4(4-0) GBL 450.
Law of sales, commercial paper, secured transactions, negotiable instruments, documents of title, and debtor-creditor relationships.

460. International Law and Business
Spring. 4(4-0) GBL 450.

468. Field Studies
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.

845. The Legal Environment of Business
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.

860. Law of International Business Transactions
Spring. 4(4-0) GBL 848 or approval of department.
Law of international business transactions including a comparative study of foreign and domestic legal environments. Case study method.

875A. Seminar in Business Law
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.

875B. Seminar in Business Law
Spring. 4(4-0) GBL 848 or approval of department.
Agencies, partnerships and corporations, viewed from legislative, judicial and executive vantage points, as they affect entrepreneurial decision making.

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

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 course. Course is also intended to give students experience in reviewing and organizing literature in a subject, and orally presenting and defending the analysis.

842. Chromosome Structure and Genetics
Winter of even-numbered years. 4(4-0) Introductory genetics course. Interdepartmental with the departments of Botany and Plant Pathology, and Zoology.
Mechanisms of mitosis and meiosis, classical and molecular genetics of chromosome structure, alterations in chromosome number and structure, transposable elements, meiotic drive.

844. Plant Organelle Genetics
Winter of odd-numbered years. 4(4-0) BOT 856, one introductory course in each of the following: genetics, cell biology and botany. Interdepartmental with and administered by the Department of Botany and Plant Pathology. 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. 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. 1 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. May reenroll. Research for the doctoral dissertation in genetics.

GEOGRAPHY

GEO

College of Social Science

100. People, Location and Environment
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.

201. Geography of Culture
Fall, Winter, Spring. 3(3-0) A systematic discussion of cultural geography, stressing cultural processes and relationships.
203. Resource Ecology
(1DC 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.
Enrollment by the Department of Fisheries and Wildlife. 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.

213. World Economic Geography
Fall, Winter, Spring, Summer. 4(4-0)
Emphasis on distribution of natural resources, economic concepts of locational analysis of weather, climate, landforms, soils, and vegetation.

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)
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.

2DC. Introduction to Contemporary China
For course description, see Interdisciplinary Courses.

2DC. 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.

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 geography 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.

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.

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.

364. Japan
Fall. 3(3-0)
Spatial patterns and processes of Japan's physical and human geography, with emphasis on development problems of the nation, especially since 1950.

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 6 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.

403. The American City and Its Region
Winter. 3(3-0)
The regional system of cities in terms of size, spacing, and functional relationships.

407. Mexico
Fall. 4(4-0) Sophomores or approval of department.
An analysis of the physical, economic and cultural patterns of Mexico.

408. Canada
Spring. 3(3-0) Sophomores or approval of department.
Analysis of the physical, economic and cultural patterns of Canada.

409. Geography of Transportation
Fall. 3(3-0)
Analysis of spatial principles of transportation, including theories of interaction, network structures, and the role of transport in space-economy.

411. Problems in Geography
Fall, Winter, Spring, Summer. 1 to 6 credits. Approval of department. Research on specialized geographic problems.

418. Critical Issues in Contemporary Africa (MTC)
Fall, Spring. 3(3-0) May reenroll for a maximum of 8 credits if different topics are taken. One course on African subject and approval of instructor. Interdepartmental with African Languages and the departments of Anthropology, History, Political Science, and Sociology. Administered by the Department of History.
Four separate multidisciplinary topics will be offered at different times. The Horn of Africa, Southern Africa, Africa and the Americas, Social Impact Studies.

424. Advanced Remote Sensing Techniques
Spring. 4(3-0) GEO 224.
Extraction, analysis, and interpretation of information obtained from remote sensors including conventional, infrared and radar imagery. Introduction to stereo-plotting devices, stressing theories of remote sensing and applications.

425. Development of Geographic Thought
Spring. 3(3-0) Approval of department.
Evolution of geographic thought from antiquity to the present emphasizing developments in 20th century America. Survey of the theory and methodology of contemporary geography.

427. Quantitative Methods in Geography and Planning
Fall, Winter. 4(4-0) Approval of department. Interdepartmental with Urban Planning.
Basic quantitative techniques used in the analysis and classification of geographic data.
Descriptions — Geography
of Courses

429. Landforms of North America
Winter, Spring. 3(3-0) May recur for a maximum of 6 credits. GEO 206, GLG 201 or approval of department.
Study of the surface features of eastern U.S.A. (winter term) and western U.S.A. (spring term).

431. Landform Analysis
Fall. 3(3-0) GEO 206, GLG 201 or approval of department.
A problem approach is utilized to explain classical and contemporary interpretations of the nature of selected landforms, including treatment of related tools and techniques. Option for some field study.

432. Biogeography
Spring. 3(3-0) GEO 206 or approval of department.
Patterns of vegetation, with emphasis on forests of eastern North America. Option for some field study.

435. Land Use and Location Theory
Spring. 3(3-0) GEO 215 or approval of department.
Location principles and theories of economic activities, including methods of regional analysis.

436. Microclimatology
Winter of even-numbered years. 3(3-0) MTH 109 or MTH 111, Interdepartmental with and administered by Agricultural Technology and Systems Management.
Physical environment in the lower few hundred meters of the atmosphere and within the biosphere.

440. Spatial Aspects of Regional Development
Spring. 3(3-0) GEO 213 or one 300 level regional geography course or approval of department.
Spatial and environmental factors in regional development at national and international scales.

446. Production Cartography
Winter. 4(2-4) GEO 223 or approval of department.
Technical aspects of map and graphics production, sequencing of procedures. Theoretical and applied aspects of process photography, typography, and proofing.

447. Advanced Cartography
Fall. 4(2-4) GEO 223.
Advanced concepts in mapmaking, including statistical surfaces, portrait, quantitative data analysis, classifying techniques, and nominal mapping.

448. Computer Mapping
Winter, Spring. 4(2-4) CPS 115.
Programming microcomputers for cartographic manipulation and portrayal of geographic data.

449. Computer Uses in Cartography
Fall. 4(2-4) GEO 223, CPS 112.
Examination of use of various mapping programs and map data bases. Computer use in modern cartography. Includes some programming.

451. Synoptic Climatology
Winter. 3(3-0) GEO 206 or GEO 351 or approval of department.
Relationship between weather, climate, and upper air flow, with emphasis on the climatology of North America.

452. Applied Synoptic Climatology
Spring. 3(3-0) GEO 451.
Application of climatological principles to weather map interpretation and forecasting. Analysis of climatological literature.

456. Map Design
Spring. 4(2-4) GEO 446.
Technical and theoretical aspects of designing maps. Topics include color, lettering, content, layout, and the influence of the user.

466. Social and Spatial Approaches to Community Service
Spring. 3(3-0) GEO 201 or SW 205 or approval of department. Interdepartmental with and administered by the School of Social Work.
Analysis of major themes in social service planning: communities and neighborhoods, public policy administration, social service networks, location of public facilities, evaluation and accountability of service systems.

470. Geography of Health and Disease
Fall, Winter. 3(3-0)
Spatial and environmental concepts and the techniques applied to health problems: disease transmission cycles, community nutrition and health-care planning.

805. Seminar in Urban Geography
Spring. 3(3-0) Approval of department.
Selected research topics on the geography of the city.

808. Environmental Measurements
(A, E 805, AET 805.) Spring of odd-numbered years. 4(3-3) MTH 109 or MTH 111, STT 422, or approval of department. Interdepartmental with and administered by Agricultural Engineering Technology.
Methods and techniques for accurate measurement and interpretation of environmental parameters. Temperature, humidity, wind and air flow characteristics, radiation, light intensity, gaseous and particulate concentrations in atmospheric microclimates will be discussed.

811. Advanced Quantitative Methods in Geography and Planning
Spring. 4(4-0) Approval of department. GEO 427, Interdepartmental with Urban Planning.
Statistical and mathematical approaches to spatial distributions and areal data.

812. Regional Seminar
Fall, Winter, Spring, Summer. 1 to 3 credits. May recur for a maximum of 9 credits. Approval of department.
Selected research topics in regional geography.

814. Research Methods in Urban and Regional Analysis
Winter. 3(3-0) U P 427 or approval of department. Interdepartmental with and administered by Urban Planning.
Basic quantitative techniques used in urban and regional analysis and planning, including statistical, linear, and network methods. Introduction to computer use.

815. Application of Research Methods to Planning and Analysis
Spring. 3(3-0) U P 814, Interdepartmental with and administered by Urban Planning.
Applied techniques used in planning research. Analysis and forecasting of urban population, economic activity, and land use. Analysis of transportation and other community facilities.

818. Readings in Geography
Fall, Winter, Spring, Summer. Variable credit. May recur for a maximum of 15 credits. Approval of department.

819. Theories of Urban Forms and Structure
Spring. 3(3-0) Approval of department. Interdepartmental with and administered by Urban Planning.
Idealized urban forms, theories and models in urban form as it relates to function and location of urban activities.

525. History and Philosophy of Geography
Fall. 3(3-0) Approval of department.
Analysis of the monographic and serial literature dealing with the theory and evolution of geographic science.

826. Research Design in Geography
Winter, Spring. 3(3-0) Approval of department.
Formalized approach to research and writing in geography: identification of geographic problems and their relative importance, structuring and stating hypotheses, data acquisitions, and tests for validity.

828. Seminar in Recreation Geography
Spring. 3(3-0) GEO 309 or approval of instructor.
Selected current problems in recreation geography in the U.S. and abroad.

834. Seminar in Physical Geography
Winter, Spring. 3(3-0) May recur for a maximum of 9 credits. Approval of department.
Analysis of classical and contemporary problems in physical geography treated as follows: climatology (winter), biogeography (spring), geomorphology (spring).

835. Seminar in Location Theory
Fall. 3(3-0) Approval of department. GEO 433.
Recent developments and research in location analysis and regional science.

839. African Research
(1DC 838.) Fall, Winter, Spring. 2 to 4 credits. May recur for a maximum of 8 credits. Graduate standing or approval of instructor. Interdepartmental with African Languages and the departments of Anthropology, Educational Administration, History, Political Science, and Sociology, Administered by the Department of Anthropology.
African-related archival and field research topics and methodologies viewed from perspective of relevant social science and humanistic disciplines associated with the African Studies Center.

845. Proseminar in Cartography
Winter. 3(3-0) Approval of department.
Contemporary cartographic research. Research questions and methods in cartography.

846. Seminar in Cartography
Spring. 3(3-0) May recur for a maximum of 12 credits. Approval of department.
Research projects in cartography.
850. Advanced Field Techniques  
Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 8 credits. Instruction and practical training in the selection, data-gathering, on-site analysis, and presentation of geographic field problems.

870. Seminar in Medical Geography  
Winter. 3(3-0)  
Spatio-environmental analysis of selected health problems.

899. Master's Thesis Research  
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

901. Problems in Cultural Geography  
Fall, Winter, Spring. 1 to 3 credits. May reenroll for a maximum of 6 credits. Approval of department. Special research problems.

902. Problems in Physical Geography  
Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 6 credits. Supervised research in specific topics of physical geography.

910. Problems in Historical Geography  
Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 8 credits. Approval of department. Special research problems in historical geography.

912. Independent Study in Regional Geography  
Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 15 credits. Approval of department. Individual studies in regional geography.

918. Problems in Geography  
Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 9 credits. Approval of department. Research on specific geographical problems.

926. Theory and Methodology in Geography  
Spring. 3(0-6) GEO 826. Theoretical and methodological issues embedded in current geographic research.

934. Problems in Population  
Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 9 credits. Approval of department. Special research problems.

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

Landscape Architecture L A

100. Introduction to Landscape Architecture  
Fall, Spring. 3(3-0)  
Environmental design concepts, orientation to landscape architecture, objectives and aspects of public and private professional practice, and scope and types of landscape development projects.

110. Fundamentals of Design  
Fall, Spring. 4(2-4)  
Analysis and application of elements and principles of design in two and three dimensional expressions to abstract and spatial design compositions for environmental requirements.

120. Graphic Communication I  
Fall. 4(2-4)  
Technical skills for graphic communication, fresh, mechanical drafting and lettering, sketching, use of technical drawing media, use of graphic symbols, diagrams, matrices, and charts; presentation and reproduction methods.

201. Site Planning  
Winter. 3(2-2)  
Elements, principles, and concepts for site development, including the use of area organization, orientation, and siting of buildings, circulation, and parking systems, spatial definitions, and detail design considerations.

221. Graphic Communication II  
(L, A 321.) Spring. 4(1-6) L A 120. Development of proficiency in landscape delineation and rendering techniques, including specialized media and formats for visual presentations of design concepts, analyses and perceptions.

233. Site Construction  
(L, A 323.) Winter. 4(2-4) L A 120. Materials and methods for construction of landscape developments, including details, layouts, construction drawings, specifications and cost estimating procedures.

240. Landscape Design Methods  
Winter. 4(2-4) L A 120. Considerations and techniques of landscape design, including natural, cultural and physical environmental inventories, site and program analyses, development of design concepts, and graphic expressions. Field trips required.

243. Basic Site Design  
(341.) Spring. 4(2-4) L A 120, L A 201, L A 240. L A 253. Applications of site planning theory and landscape design methods to representative site development projects involving buildings, uses, areas, land, water and plant forms, with verbal and graphic expressions. Field trips required.

253. Planting Design Theory  
(L A 250; L A 350.) Spring. 3(3-0) L A 110, L A 201, or approval of department. Principles of plant compositions, plant environments and spatial definitions in the use of plant materials for modifying landscapes. Field trips required.

300. Landform Design  
(L, A 210.) Fall. 3(2-2) L A 201. L A 340L concurrently or approval of department. Elements and principles of site grading, relief visualization, contour interpretation, land form units, surface drainage, slope calculations, and earthwork quantity determinations.

322. Site Engineering  
Winter. 4(2-4) L A 330. Principles and procedures for design of site development systems, horizontal and vertical road alignments, storms and sanitary sewers, site utilities and computer applications for preparation of site construction drawings.

340. Site Design Theory  
Fall. 2(2-0) L A 243; L A 340L concurrently, L A 330, L A 353, or approval of department. Advanced theory of site design, the design of complex perceptual spatial and scale experiences through the integration of spatial arrangements, use configurations and building site systems.

340L. Site Design Studio II  
Fall. 3(0-6) L A 243; L A 340L concurrently, L A 330, L A 353. Advanced application of landscape design theory involving the integration of increasingly complex site systems, use configurations and activity types.

342. Recreation Site Design  
Winter. 4(2-4) L A 340L. Ecological and cultural considerations, activity requirements, recreation systems and site design standards; with applications of design process to representative recreation site developments, parks and special use areas.

346. Housing Site Design  
Spring. 4(2-4) L A 342 or approval of department. Application of site planning principles and land design methods to representative site development projects, with emphasis on housing requirements and opportunities.

353. Planting Plans  
Fall. 3(2-2) HRT 218; L A 340L concurrently, approval of department. Principles and procedures for selection and arrangement of plant materials for specific use, including uses of climate modification, spatial definition, circulation control, and soil and water conservation, as expressed by planting plans and specifications.

370. History of Environmental Development  
Spring. 3(0-0) Significant natural conditions and cultural events which have influenced the development of the modern day environment as expressed in historic landscape development styles and movements.

390. Landscape Architecture Field Studies  
Fall, Winter, Spring. 2 to 4 credits. May reenroll for a maximum of 8 credits. Approval of school. Field trips to contemporary and historical site and regional zones within or outside the United States. Prior and post study required.

400L. Landscape Architecture Honors Course  
Fall, Winter, Spring, Summer. 4 credits. May reenroll for a maximum of 12 credits. Junior, approval of department. Individual study of advanced nature in four landscape architecture topic areas: landscape design, site engineering, history, and professional practice. Extensive readings and term paper required.

401. Environmental Land Planning  
Fall. 3(3-0)  
Principles and methods of ecologically based land planning, stressing management and natural resources in relationship to growth and development; includes current environmental planning and development at local and state levels.

403. Urban Design Theory  
Winter. 3(3-0)  
Concepts and procedures for the organization, design, and development of public and private urban forms and spaces, including survey of urban elements, cultural, ecological and aesthetic considerations, and interdisciplinary collaboration.
Descriptions — Geography of Courses

423. Professional Graphics
L A 221. Winter. 4(2-6). 4 credits.
Applications of advanced sketching, perspective and rendering techniques to typical professional presentations, including prints, reproductions, photography and multi-media audio-visual communications.

437. Design Implementation
Spring. 4(1-6). L A 448; U P 410, L A 480. Preparations of a complete package of contract documents including the use of computer technology to enforce site development project including typical construction drawings, specifications and cost estimates.

444. Regional Landscape Design
Fall. 4(1-6) L A 346 or approval of department; L A 401 concurrently. Application of theories and methods of environmental land planning to problems of land use, resource conservation and environmental protection utilizing a project format and multidisciplinary team approach.

448. Project Design
Winter. 4(1-6). L A 403 concurrently; L A 444, L A 480 or approval of department. Application of site design theory to complex site development projects involving interaction between human activities, site characteristics and end uses.

471. History of Landscape Architecture
Spring. 3(3-0). Environmental design concepts and projects from 1850 to the present, with emphasis on the development of the profession and practice of landscape architecture in the United States.

480. Professional Practice
Fall. 4(3-2) Senior majors, L A 444 concurrently. Principles and procedures of professional office practice, including ethics, client relations, registration, inter-professional collaboration, project management and marketing of professional services.

483. Landscape Architecture Seminar
Spring of odd-numbered years. 3(2-2). Landscape Architecture Majors. Research presentation and discussion of significant current issues, trends, events and opportunities relating to contemporary theories and practices of landscape architecture.

489. Landscape Architecture Internship
Fall, Winter, Spring. 2(0-8) or 3(0-12) or 4(0-16). May enroll for a maximum of 8 credits. Juniors, approval of school. Supervised experience in approved public agencies and professional offices. Bi-weekly conferences.

490. Special Problems
Fall, Winter, Spring. 2 to 5 credits. May enroll for a maximum of 12 credits. Approval of school. Investigation for advanced undergraduate students in landscape architecture, developed from special interest areas.

Urban Planning

200. Introduction to Urban Planning
Fall. Winter. 3(3-0). The field of urban planning. Development of cities and role cities have played. Role of the urban planner, with current and emerging roles in planning. Problems facing cities today.

231. Evolution of Urban Communities (S)
Fall, Spring, Summer. 4(4-0). Forces which promoted urban development and shaped urban areas throughout human history. Relationship of these to continuing influences on current urban concerns. Historical bases of cultural forces in contemporary urbanism.

335. Power, Policy, and the Metropolis (UMS 335.) Winter. 4(4-0) Juniors. Critical issues in power and decision making at a local level. Issues in central cities, suburbs, and metropolitan regions. Stresses the interactions between policy and social and economic forces.

341. Urban Planning Methods of Analysis
Fall. 3(3-0) Juniors in urban planning or approval of school. Types of urban planning variables and methods of application to planning studies. Study design for basic planning investigations, and technique of investigation.

342. Research Methods in Planning
Winter. 4(4-0) U P 341. Methods for investigation and analysis of urban phenomena; models, data and techniques used in mathematical, graphical and logical analyses.

351. Spatial Design
Winter, Spring. 4(2-4) U P 200; L A 120 or BCM 215. Urban community functional physical elements at various scales. Laboratory work on planning problems related to human activity flow, terrain and structures, including land subdivision design.

352. Urban Design Problems
Spring. 4(0-8) U P 351. Application of the physical design processes from the scale of individual element groupings to complete community units in a two and three dimensional context.

363. Comprehensive Planning Process
Winter. 3(3-0) U P 233. Theory and application of coordinated planning for urban development, including policies and development plan formulation, programming, evaluation, review and revision of policies and plans.

400. Urban Development and Planning

410. Computer Applications in Planning and Landscape Architecture
Winter. 3(3-2) CPS 115, approval of department. Computers in planning and landscape micro-computers and interactive terminals. Application of various programs and software: simulation modeling, scheduling techniques, project assessment and management, spreadsheets, data base management, word processing.

427. Quantitative Methods in Geography and Planning
Fall, Winter. 4(4-0) Approval of department. May enroll with and administered by the Department of Geography. Basic quantitative techniques used in the analysis and classification of geographic data.

431. Housing: Developing Societies
Fall. 3(3-0). Housing programs relative to public policy, urban development, population characteristics and change, financing, land and tenancy issues. Projects as examples of public and private initiatives. Comparative analyses of housing systems.

432. Housing: Industrialized Societies (RES 465.) Winter. 4(4-0) Juniors. Interdepartmental with the Department of Human Environment and Design. Comparison of urban housing policies in selected countries, such as Great Britain, Italy, Poland, the Soviet Union, the Scandinavian countries, the United States, and the Federal Republic of Germany.

433. Housing: United States
Spring. 3(3-0). Interdisciplinary approach to housing as a societal institution; cultural, physical and economic characteristics of housing: housing problems, governmental policies and assisted housing programs. Future developments, policy alternatives and needs.

442. Foundations of Urban Policy
(UMS 432.) Fall. 4(4-0) Juniors. Historical and political foundations of contemporary urban policy, stressing federal policies from public housing to general revenue sharing. Role of power and influence in policymaking process.

443. Urban Policy Analysis
(UMS 433.) Winter. 4(4-0) U P 342 or approval of school. The nature of contemporary American urban public policy. The institutions and processes that affect urban policy. Theory and methodology of public policy analysis relating to select urban issues.

450. Social Planning
Winter. 3(2-2) U P 363, U P 400 or graduate students. Definition of Social Planning. Techniques for identifying problems of resource access, and survey of attributes and skills necessary to improve delivery and participation. Field work with neighborhood organizations and planning agencies. Field trips required.

460. Planning Practice
Spring. 3(3-0) Senior urban planning major or U P 400. Administration of urban planning in relationship to governmental operations, other professions and the public. Emphasis on staff functions and responsibilities, consultant practice, and professional ethics.

461A. Comprehensive Planning
Winter. 4(4-0) U P 363. Collection, analysis and synthesis of planning information for an established urban area and region. Formulation of comprehensive physical development policies and plans, and implementation programs.

461B. Comprehensive Planning
Spring. 4(0-8) U P 461A. Continuation of U P 461A.

462. Fiscal Planning
Winter. 4(4-0) U P 363 or U P 400 or approval of school. Analysis of costs associated with plan implementation, redevelopment, and preservation. Relations between the budgeting process and the fiscal implications of planning.
Course Descriptions

472. Urban Development Regulation
   Winter. 3(3-0) Seniors.
   Public and private regulations basic to regulations influencing urban development; state enabling legislation and regulations; local ordinances, especially for zoning and subdivision regulations.

473. Urban Development Programs
   Spring. 4(2-4) U P 461B; U P 472
   Current governmental programs affecting urban development and renewal, grants process, proposal preparation. Application of appropriate programs to laboratory community as parts of comprehensive planning implementation strategy.

489. Internship in Urban Planning
   Fall, Winter, Spring, Summer. 2(0-8) or 3(0-12) or 4(0-16) May reenroll for a maximum of 8 credits. Senior majors; approval of school.
   Individual experience in approved agencies and departments in the Lansing area.

490. Independent Studies in Urban Planning
   Fall, Winter, Spring, Summer. 2 credits. May reenroll for a maximum of 4 credits. Senior majors, approval of school.

491. Special Problems
   Fall: Winter, Spring, Summer. 2 to 6 credits. May reenroll for a maximum of 6 credits. Approval of school.

492. Contemporary Urban Politics, Policy and Planning
   Winter. 3(3-0) Approval of school.
   The contemporary roles of public urban policy, and relationships among selected key areas of urban policy and urban planning.

495. Background of Urban Development Planning
   Fall. 3(0-0)
   American urban development from 1620 to the present, including shifts in technology and social forces that influenced development patterns. Problems faced by the professional planner are emphasized.

411. Advanced Quantitative Methods in Geography and Planning
   Spring. 4(4-0) Approval of department. GEO 427. Interdepartmental with and administered by the Department of Geography. Statistical and mathematical approaches to spatial distributions and areal data.

414. Research Methods in Urban and Regional Analysis
   Winter. 3(3-0) U P 427 or approval of school. Interdepartmental with the Department of Geography.
   Basic quantitative techniques used in urban and regional analysis and planning, including statistical, linear, and network methods. Introduction to computer use.

415. Application of Research Methods to Planning and Analysis
   Spring. 3(3-0) U P 814. Interdepartmental with the Department of Geography.
   Applied techniques used in planning research. Analysis and forecasting of urban population, economic activity, and land use. Analysis of transportation and other community facilities.

416. The Planning Process
   Fall. 3(3-0)
   Basic research and survey methods, and procedures used by the professional planner in developing a comprehensive plan.

418. Planning Process Theory
   Winter. 3(3-0) Approval of school.
   Planning as a decision-making process; methods for defining goals in public and private planning programs, role of planning in public policy, formulation, planning for positive human-environment relationships.

419. Theories of Urban Forms and Structure
   Spring. 3(3-0) Approval of school. Interdepartmental with the Department of Geography.
   Idealized urban forms, theories and models in urban form as it relates to function and location of urban activities.

421. Legal Bases for Planning
   Winter. 3(3-0) U P 473; approval of school.
   Analysis of legislation pertinent to planning, emphasis upon legislation for city and regional planning bodies and creation of special authorities with general planning responsibilities.

424. Planning Presentation Techniques
   Fall. 3(1-4) Approval of school.
   Communication skills utilized by planners to present policy proposals to governmental decision-makers and citizens. Speaking, writing, and small group leadership integrated with essential planning graphic skills.

500. Development Project Evaluation
   Spring. 3(2-2) Approval of school.
   Planning evaluation methods and processes employed in the review of urban development proposals and projects, site plans, and public policies.

504. Planning Practicum I: Field Studies
   Fall. 3(0-6) Completion of the first year MUP Core Program or approval of school.
   Field experience in the collection, analysis, and synthesis of information by individual students or student groups, to develop solutions to specific urban problems.

505. Planning Practicum II: Plan Making and Implementation
   Winter. 3(0-6) U P 834
   Based on study and research done in U P 834, the preparation of plans appropriate to the study area and subject. The design of statutory measures and administrative policies for implementation.

506. Introduction to Design
   Winter. 3(0-6) U P 825 or approval of school.
   Studio course emphasizing the role of planning in shaping the process of urban growth and development, and the role of physical form and structure in influencing cultural patterns.

542. An International Comparative Study of Urban Planning
   Winter of odd-numbered years. 3(3-0)
   Urban growth patterns; types, roles and design theory of new cities; techniques and organization for urban growth; selection of subject areas will be made according to the class composition.

550. Housing Program Planning
   Spring of even-numbered years. 4(3-4)
   Approval of school.
   Regulation, stimulation, salvage, and replacement of housing through public policy and administrative procedures. Increasing role of private initiative as partner to public action through conservation, rehabilitation, and redevelopment practices. Evaluation of trends and needs; analysis of case studies.

555. Urban Land Policy and Regulation
   Spring of odd-numbered years. 4(2-4)
   Approval of school.
   Public land use policy and legislation, and implementing governmental actions. Land use controls exercised by several levels of government. Field work in development and application of land use control instruments.

562. Development Planning and Administration
   Spring of odd-numbered years. 4(3-4)
   Approval of school.
   Measurement of urban obsolescence and deterioration with accompanying analysis of symptoms and causes for a selected community. Comprehensive plan for urban renewal and development objectives will be developed and one or more project areas will be studied and processed in accordance with most effective techniques and administrative procedures. Emphasis to be placed on the objective of unified revitalized community development.

589. Internship in Urban Planning
   Fall, Winter, Spring, Summer. 2(0-8) or 3(0-12) or 4(0-16) May reenroll for a maximum of 8 credits. Graduate students in Urban Planning, approval of school.
   Individual experience in approved agencies and departments in the Lansing area.

597. Special Topics in Urban Planning
   Fall, Spring. 2 to 4 credits. May reenroll for a maximum of 6 credits if different topic is taken.
   Issues pertaining to urban planning as they arise out of current research, planning practices or the interplay of national issues and urban problems.

598. Master's Research
   Fall, Winter, Spring, Summer. 2 or 3 credits. Approval of school.
   The research component of the Plan B option for the MUP degree.

599. Master's Thesis Research
   Fall, Winter, Spring, Summer. Variable credit. May reenroll for a maximum of 15 credits. Approval of school.

GEOLOGICAL SCIENCES

College of Natural Science

Geology

200. Geology of Human Environment (N)
   Fall. Winter, Spring. 4(3-2)
   Not open to Geology majors. Credit will be given in only one of the following: GLG 200, GLG 201, GLG 306.
   The scientific method in geological studies: its impact on social, philosophical and political decisions.