

363. Compensatory Education in Urban America
Fall, Winter. 3(3-0) Majors: Juniors and U D 202; others: Juniors or approval of department.

Assumptions, purposes, problems and results of compensatory education programs as they affect urban school systems.

385. Housing Problems of Minorities in Urban Areas
Fall, Spring. 4(4-0) U D 202, U P 433 recommended. Interdepartmental with and administered by the Department of Racial and Ethnic Studies.

A study of the housing problems of minority groups with special emphasis on low cost housing.

400. Community Financial Resource Development
Fall, Spring, Summer. 3(3-0) Juniors or approval of department.

Public and private financial resources available for community interventions. Issues such as revenue sharing, granting and contracting processes and their use will be considered.

401. The Ghetto
Fall, Spring. 4(4-0) Juniors or approval of department. Interdepartmental with the Department of Geography.

Analysis of the ghetto including its spatial organization, structure and distribution of non-white and ethnic populations in cities with emphasis on the United States.

402. The Geography of the City
Fall, Spring. 4(3-0) Interdepartmental with and administered by the Department of Geography.

Spatial theories, concepts, and designs of internal urban economic, social, and political structures.

410. Medical Economics
Spring. 3(3-0) EC 200, 201, or approval of department. Interdepartmental with and administered by the Department of Economics.

Demand, supply and economic efficiency in the markets for health services. Demand for medical care, organization forms, methods of payment, utilization and cost, and public policy for health care.

412. The Economics of Poverty
(390.) Winter. 3(3-0) EC 200, 201. Interdepartmental with and administered by the Department of Economics.

Theory of the distribution of income and wealth. Concepts and measurement of welfare. Definitions of poverty. Effects of public and private programs on the poor.

413. Urban Economics
(380.) Fall. 4(4-0) EC 200, 201. Interdepartmental with and administered by the Department of Economics.

Location theory and urban development. Economics of city size and urban-suburban conflict. Economic aspects of certain community problems like housing, transportation, welfare and poverty. Strategies for urban development.

430. Urban Policy Analysis
Fall, Spring, Summer. 4(4-0) Juniors or approval of department.

The nature of contemporary American urban public policy. The institutions and processes that affect urban policy will be examined. Theory and methodology of public policy analysis relating to select urban issues.

441. Health and Environmental Quality
Winter. 3(3-0) Majors: Juniors and U D 202; others: Juniors or approval of department.

Relationship between health and the urban physical and socio-cultural environment from the perspective of, e.g., law, psychology, politics, medicine and the community.

450. Law and Social Change
Fall, Spring. 3(3-0) BIO 440. Interdepartmental with Public Affairs Management.

Law as applied to urban and rural context of social change. A review of both formal and informal aspects of system accessibility, institutional formation, government, civil rights, and human service.

461. Educational Segregation, Desegregation, Integration and Busing
Winter, Spring. 3(3-0) Majors: Juniors and U D 202; others: Juniors or approval of department.

Development and effects of segregation, desegregation, integration and busing for public school integration on minority and majority groups.

463. Economics of Urban Education
Spring. 3(3-0) EC 201 or 210. Interdepartmental with the Department of Economics.

Political economy of urban schools. Education as a commodity: efficient production and distribution, supply and demand for education, financing education, planning education to meet job needs and social mobility.

480. Independent Study
Fall, Winter, Spring, Summer. 2 to 4 credits. May re-enroll for a maximum of 10 credits. Juniors; approval of department.

485. Selected Topics in Urban and Metropolitan Studies
Fall, Winter, Spring, Summer. 4(4-0) May re-enroll for a maximum of 8 credits. Juniors, or U D 200, SS 221.

Contemporary issues and problems in the urban areas.

**URBAN DEVELOPMENT U D
(COLLEGE OF)**

200. Human Perspectives on Urbanization
Fall, Winter, Spring. 4(4-0)

The changing role of the city in contemporary urban societies. The human problems in urban centers as well as strategies for solving those problems.

201. Historical Roots of Racism and Ethnocentrism
Fall, Winter, Spring. 4(4-0)

Theories of racism and ethnocentrism, emphasizing a problem-solving approach in applying these theories to pluralism as it relates to Blacks, Spanish-Speaking and Indian Americans.

202. Minorities in American Cities
Fall, Winter, Spring. 4(4-0) 200 and 201.

Changing socio-economic and political conditions of minority groups in American cities associated with urbanization. Special emphasis will be given to Blacks, Spanish-Speaking and Indian Americans.

498. Prefield Experience Seminar
Fall, Winter, Spring, Summer. 1 credit. Approval of college.

Prepares students for the required College of Urban Development field experience. Students develop field experience proposal including rationale and objectives.

499. Field Experience
Fall, Winter, Spring, Summer. 6 to 12 credits. May re-enroll for a maximum of 24 credits. 498 and approval of college.

The development of field research and analytical skills and the provision of experiential learning via students participating in field work settings and public service projects.

**URBAN PLANNING AND
LANDSCAPE ARCHITECTURE**

College of Social Science

Urban Planning U P

103. Design of Cities
Spring. 3(3-0)

Definition of planning; objectives and accomplishments of the urban designer; basic design principles of space, scale and circulation applied to the physical pattern of cities.

231. Evolution of Urban Communities
Fall. 3(3-0)

Basis for particular overall forms in urban settlements. Interrelationships of various cultural influences and theoretical urban concepts to contemporary communities in the United States and foreign areas.

232. Contemporary Urban Development
Winter. 3(3-0) 231 recommended.

Current patterns, trends and problems indicated in the development and renewal of established urban centers and new urban growth.

233. The Role of Planning in Urban Development
Spring. 3(3-0) 231 recommended.

Influence upon urban and regional development exerted by various types of governmental and private organizations.

243. Planning Communication
Fall, Spring. 3(2-2)

Development of planning materials using basic skills of graphic presentation, writing, and oral reporting. Methods of graphic analysis and reproduction will be emphasized.

311. Site Planning and Construction I
Winter. 5(3-6)

Elementary problems emphasizing physical development of specific sites involving population densities, architectural forms, grading, public utilities, traffic and parking, and functioning street patterns.

342. Research Methods in Planning
Winter. 5(5-0) SSC 211.

Methods for investigation and analysis of urban phenomena; models, data and techniques used in mathematical, graphical and logical analysis.

**Descriptions — Urban Planning and Landscape Architecture
of
Courses**

351. Spatial Design

Fall. 5(3-4) 233, 243.

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

Winter. 5(0-9) 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

Spring. 3(3-0) 233, 342.

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

Fall, Spring. 3(3-0) Credit may not be earned in 232 or 233 and 400. Juniors. Not open to majors in Urban Planning.

Planning concepts and powers used to guide contemporary urban growth and alleviate common problems. Major topics will be the planning commission, comprehensive plan, zoning, land development, parks, school location.

431. International Housing Developments

Fall. 3(3-0)

Importance and types of governmental housing programs in reference to urban design, financial policies and land issues. Projects and programs selected primarily from underdeveloped countries.

433. Man and His Shelter

Fall, Spring. 3(3-0) Interdepartmental with the Human Environment and Design Department.

Interdisciplinary approach to man and his shelter; role of shelter in the community, housing as a cultural, economic, and institutional force; future developments and needs.

461A. Comprehensive Planning

Fall. 4(0-8) 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

Winter. 4(0-8) 461A.

Continuation of 461A.

461C. Comprehensive Planning

Spring. 4(0-8) 461B, 471.

Continuation of 461B.

471. Ecological Basis for Planning

Fall. 3(3-0) Seniors.

Ecological principles, relationships and interaction between natural and man-made elements of the environment; critical review of environmental planning projects at local, state and national levels.

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. 3(2-2) 472.

Governmental programs influencing urban development, including direct development projects, technical and financing assistance, administrative regulations by federal and state agencies. National, state and regional programs.

490. Independent Studies in Urban Planning

Fall, Winter, Spring. 2(2-0) Senior majors, approval of school.

800. Special Problems

Fall, Winter, Spring, Summer. 2 to 6 credits. May re-enroll for a maximum of 6 credits. Approval of school.

801. City and Regional Design

Practical application of city and regional planning theory and principles to specific and representative case studies. Work will include field research, design analysis, and presentation of workable recommendations as to appropriate objections and actions for solutions.

A. URBAN DESIGN.

Spring. 5 credits. Approval of school.

Design projects for functions relating to selected community activities. Commercial, industrial, residential, institutional, and transportation land uses will be utilized for design study in appropriate dimensions.

B. METROPOLITAN REGIONS.

Fall. 6 credits. 471 and approval of school.

Selected problems of metropolitan functions of present and future significance. Intra and inter-regional relationships of primary functional importance; such as, open spaces, economic development, community patterns, transportation, and associated land uses.

C. URBAN RENEWAL AND DEVELOPMENT.

Spring. 6 credits. 821 or 433 and 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.

802. Urban Planning Methods

Fall. 4(4-0)

Basic research and survey methods, and procedures used by the professional planner in developing a comprehensive plan.

803. Spatial Design

Fall. 4(0-6)

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 man's cultural patterns.

810. Planning Theory

A. THEORY OF THE PLANNING PROCESS

Winter. 3(3-0) Approval of school.

Influential schools of thought, planning as a decision-making process, methods for defining goals in public and private programs, and the role of planning in formulating public policies.

B. THEORIES OF URBAN FORMS AND STRUCTURE

Spring. 3(3-0) Approval of school.

Idealized urban forms, theories and models in urban form as it relates to function and location of urban activities.

812. Application of the Social Sciences in Urban Planning

Spring. 3(3-0) Non-majors: approval of school.

Evaluation of social science concepts, methods, and knowledge on the basis of their implications and applications in community planning and development. Participation by faculty and graduate students from appropriate Social Sciences and Urban Planning.

813. An International Comparative Study of Urban Planning

Winter, Spring. 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.

820. Research Methods in Urban Planning

Winter. 4(4-0) Approval of school.

Examination of research methods useful in application to components of urbanization as population, land use, housing, business facilities, industrial development, traffic, recreation, and critical aspects of community structure.

821. Seminar in Housing and Urban Renewal

Winter. 3(3-0) 433.

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.

822. Urban Circulation

Fall. 3(3-0) 342 or 400 and approval of school.

Functional requirements and interrelationships of all means for the movement of people and goods in urban areas as they affect the physical pattern of the community.

830. Legal Bases for Planning

Winter. 3(3-0) 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.

831. Zoning and Land Subdivision Regulation

Fall. 3(3-0) 830 or approval of school.

Ordinance structure and planning theory as expressed in texts of ordinances. Selected court cases.

832. Administration and Professional Practice
Spring. 3(3-0) Majors or approval of school.

Expanding scope of urban planning and implications for administration; organizations for administration; relationship to governmental operations, to other professions, to public. Staff functions and responsibilities; administrative instruments; practice of the consultant; professional ethics.

899. Research
Fall, Winter, Spring, Summer. Variable credit. May re-enroll for a maximum of 15 credits.

Individual student research on a topic of critical importance to urban planning that will demonstrate student's competence and make a contribution to the knowledge of the field.

Landscape Architecture **L A**

100. Environmental Perception
Fall, Winter, Spring. 3(3-0)

Environmental design concepts, orientation to landscape architecture, including environmental inventories, objectives and aspects of public and private professional practice, and scope and types of landscape development projects.

110. Fundamentals of Design
Fall, Winter. 5(2-6)

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
Fall, Spring. 4(1-6)

Basic technical skills for graphic communications, mechanical and free-hand drafting and lettering, sketching, perspective drawings, use of graphic symbols, dimensioning, rendering media and techniques, and reproduction methods.

201. Site Planning Theory
Spring. 2(2-0)

Elements, principles and concepts for site development, including use area organization, orientation and siting of buildings, circulation and parking systems, spatial definitions, and detail design considerations.

230. Landform Design
Winter. 4(2-4) 120 and provisional majors.

Elements and principles of site grading, relief visualization, contour interpretation, land form units, surface drainage, slope calculations, and earthwork quality determinations.

240. Landscape Design Methods
Fall, Winter. 4(1-6) 120 and provisional majors.

Considerations and techniques of landscape design, including natural, cultural and perceptual inventories, site and program analyses, development of design concepts, with verbal and graphic expressions. Field trips required.

241. Site Planning Studio
Spring. 3(0-6) 240 and 201 concurrently.

Applications of site planning theory and landscape design methods to representative site development projects involving buildings, use areas, land, water and plant forms, with verbal and graphic expressions. Field trips required.

250. Introductory Planting Design
Spring. 4(2-4) 240.

Principles of and procedures for arrangement of plant compositions, emphasizing the perceptual characteristics of plants by means of models, sketches and plans, and potential applications to landscape developments. Field trips required.

303. Community Design Theory
Spring. 2(2-0)

Ecological and cultural elements and concepts of community development, including data surveys, legal controls, design standards and site planning requirements for community facilities.

304. Housing Design Theory
Winter. 2(2-0)

Concepts, principles and regulations for the development of housing areas, including ecological considerations, cultural implications, housing forms, types of developments, legal controls, and site planning requirements and procedures.

305. Recreation Design Theory
Fall. 2(2-0)

Ecological and cultural considerations for development of open space and recreation areas, resource characteristics and limitations activity requirements, recreation systems, site design standards, and recreational land use programs and policies.

321. Advanced Graphic Communication
Fall. 4(1-6) Junior majors.

Development of proficiency in landscape delineation and rendering techniques, including specialized media and formats for visual presentations of design concepts, analyses and perceptions.

333. Site Construction
Spring. 4(2-4) Junior majors.

Materials and methods for construction of landscape developments, including details, layouts, construction drawings, specifications and cost estimating procedures.

343. Design of Community Facilities
Spring. 3(0-6) Junior majors and 303 concurrently.

Applications of community design theory and landscape design methods to representative community developments, such as institutions, commercial, civic and industrial site design projects, with written, oral and graphic representations. Field trips required.

344. Design of Housing Developments
Winter. 3(0-6) Junior majors and 304 concurrently.

Applications of housing design theory and site planning principles and methods to representative housing developments, such as residential land subdivisions, multi-family complexes and planned unit developments, with written, oral and graphic representations. Field trips required.

345. Design of Recreation Areas
Fall. 3(0-6) Junior majors and 305 concurrently.

Applications of recreation design theory, site planning principles and procedures to representative recreational land developments, parks, special recreation use areas, with verbal and graphic expressions. Field trips required.

353. Functional Planting Design
Winter. 4(2-4) Junior majors.

Principles and procedures for selection and arrangement of plant materials for specific uses, including climate modification, spatial definition, circulation control, soil and water conservation, etc., as expressed by planting plans and specifications.

360. Architectural Design Theory
Spring. 2(2-0)

Physical and visual properties of construction materials, structural elements and systems, siting of buildings, form-space relationships and related principles of architectural design.

362. Architectural Design Studio
Spring. 3(0-6) Majors or approval of school.

Application of architectural design theory to representative building types and situations, with emphasis on structural and spatial form and site relationships of simple buildings. Field trips required.

370. History of Environmental Development
Winter. 3(2-0)

Significant natural conditions and cultural events which have influenced man's attempts to organize and design his physical environment, as expressed in historic landscape development styles and movements.

390. Landscape Architecture Field Studies
Fall, Spring. 2(1-2) May re-enroll for a maximum of 4 credits. Approval of school.

A 3 to 5 day field trip to visit contemporary and historical developments and various regional zones. Prior and post study required.

401. Regional Design Theory
Winter. 2(2-0)

Concepts and policies affecting natural resource conservation, selection and location of significant human use areas, landscape development considerations and their environmental implications.

403. Urban Design Theory
Fall. 2(2-0)

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.

423. Professional Graphics
Winter. 4(1-6) 321.

Applications of advanced sketching, perspective and rendering techniques for typical professional presentations, including prints, reproductions, photography and multi-media audio-visual communications.

430. Special Projects in Environmental Design
Summer. 5(2-6) 345.

The improvement of man's physical environment as taught by a sequence of highly regarded professional practitioners and educators in the environmental design professions.

432. Site Engineering
Fall. 4(2-4) Senior majors and CE 251.

Principles and procedures for design of site development systems, horizontal and vertical road alignments, storm and sanitary sewers, site utilities and computer applications for preparation of site construction drawings.

**Descriptions — Urban Planning and Landscape Architecture
of
Courses**

441. Regional Landscape Design
Winter. 3(0-6) Senior majors and 401
concurrently.

Applications of regional design theory and landscape design methods to representative large scale land use and development projects, resource conservation, environmental restoration, and accommodation of various human activities. Field trips required.

443. Urban Landscape Design
Fall. 3(0-6) Senior majors and 403
concurrently.

Applications of urban design theory and landscape design methods to representative urban development projects, public plazas, pedestrian malls, civic and cultural complexes, etc., with written, oral and graphic representations. Field trips required.

451. Ecological Planting Design
Fall. 4(2-4) 250. 353 and HRT
211, 212.

Selection, utilization and arrangement of natural materials for various site development purposes, with emphasis on consideration of natural environmental factors which affect plant growth and location for distinctive sites and uses. Field trips required.

463. Architectural Design II
Winter. 4(1-6) 360, 362.

Design of buildings and their groupings in relation to the landscape, including structural systems, form-space compositions, and applications to representative landscape development projects. Field trips required.

**471. History of Landscape
Architecture**
Spring. 3(2-2)

Environmental design concepts and projects from 1850 to the present time, with emphasis on the development of the profession and practice of landscape architecture in the United States.

480. Professional Practice
Spring. 3(2-2) Senior majors.

Principles and procedures of professional landscape architectural practice, including ethics, client relations, registration, inter-professional collaboration and organization of operations for design implementation. Field trips required.

**483. Landscape Architecture
Seminar**
Winter. 3(2-2) Senior majors.

Research presentation and discussion of significant current issues, trends, events and opportunities relating to contemporary theories and practices of landscape architecture.

490. Special Problems
Fall, Winter, Spring, Summer. 2 to 5
credits. May re-enroll for a maximum of 8
credits. Approval of school.

Investigation, for advanced undergraduate students in landscape architecture, developed from special interest areas.

**499. Landscape Architecture Design
Thesis**
Spring, Summer. 5(1-8) Senior
majors.

Demonstration of analytical, creative and technical competencies in the development of methods and/or concepts leading to design solutions for contemporary landscape architecture problems.

504. Comprehensive Problem
Fall, Winter, Spring, Summer. Variable
credit. May re-enroll for a maximum of 15
credits.

Development of a terminal, creative project of subject matter selected by the student and approved by the department, involving the various phases of landscape architecture and submitted to the faculty as evidence of his mastery of the principles of his profession.

**VETERINARY MEDICINE V M
(COLLEGE OF)**

**500A. Introduction to Veterinary
Medicine I**
(SSM 501.) Summer. 2(2-0) Admis-
sion to professional veterinary program.

Species and breed identification, predisposition for specific diseases, basic care and feeding, restraint and handling of small domestic animals, unusual pets, and laboratory animals.

**500B. Introduction to Veterinary
Medicine II**
Fall. 2(2-0) Second-term Veterinary
Medicine students.

Large animal practice present and future. Fundamentals of equine conformation, gaits, shoeing, feeding and routine medical care. Economics and management factors in diseases of food animals.

**500C. Introduction to Veterinary
Medicine III**
(LSM 503.) Spring. 4(3-3) Third-
term Veterinary Medicine students.

Physical and systemic examination of the various domestic and laboratory species. Common restraint procedures, clinical skills, diagnostics and an approach to clients are included.

**500D. Introduction to Veterinary
Medicine IV**
(SSM 502.) Spring. 4(3-3) Fourth-
term Veterinary Medicine students.

Anesthetic principles, agents and techniques. Basic surgical principles, including aseptic technic, hemostasis, wound healing, suturing and suturing materials. Fundamentals of radiology.

**500E. Introduction to Veterinary
Medicine V**
Spring. 3(3-0) Fourth-term Veter-
inary Medicine students.

Emphasis on behavior of animals relating to disease prevention and treatment. Lectures, discussions and demonstrations on veterinary ethology including animal communications, reproduction, restraint, handling, housing and feeding habits.

501. Client Communication
(500.) Spring. 1(0-2) Fourth-term
Veterinary Medicine students.

Communication and interviewing skills as the basis for establishing and maintaining effective client relationships.

**502. Metabolic Diseases,
Endocrinology and Epidemiology**
Summer. 4(4-0) Fifth-term Veter-
inary Medicine students.

Biochemical and physiological basis of metabolic and endocrine diseases of animals including diagnosis, treatment and management. Principles of epidemiology and their application in the study of diseases in animal populations.

**504. Urinary and Hematopoietic
Systems**
Summer. 7(5-6) Fifth-term Veter-
inary Medicine students.

Integrative approach to the understanding of the urinary system in health and disease of animals. Pathogenesis, diagnosis, and clinical management of diseases of the hemopoietic and lymphoid organs and tissues.

510. Survey of Infectious Agents
Fall. 4(4-0) Sixth-term Veterinary
Medicine students.

Host-microorganism relationship in diseases of animals; laboratory diagnosis, treatment, control, and public health significance will be emphasized.

512. Nervous System
Fall. 3(2-1) Sixth-term Veterinary
Medicine students.

Normal and abnormal neural structure and function in animals with emphasis on clinical neurology and neuropathology.

**514. Cardiovascular and
Respiratory Systems**
Fall. 7(5-6) Sixth-term Veterinary
Medicine students.

Pathogenesis, diagnosis, and management of cardiovascular and respiratory diseases of animals; anatomical, physiological, and pharmacological principles providing basis for medical and surgical treatment will be emphasized.

516. Reproductive System
Fall. 5(4-3) Sixth-term Veterinary
Medicine students.

Reproductive diseases of animals with emphasis on genital structure and function, endocrine interrelationships, methods for examination of mammary gland and reproductive tract, diagnosis, and treatment.

**518. Diagnostic and Surgical
Procedures**
Fall. 2(0-6) Sixth-term Veterinary
Medicine student.

Demonstration and performance of some procedures applicable to nervous, reproductive, and respiratory systems.

520. Veterinary Public Health
Winter. 3(3-0) Seventh-term Veter-
inary Medicine students.

Public health aspects of veterinary medicine; the nature of laws, ordinances, and regulations; and veterinary medicine's role in the protection of the environment, ecology, and ensurance of food hygiene.

522. Digestive System and Nutrition
Winter. 9(6-9) Seventh-term Veter-
inary Medicine student.

Pathogenesis, diagnosis, and treatment of diseases of the alimentary tract and digestive organs of animals. Recognition and rational therapy of nutritional diseases in animals.

524. Integumentary System
Winter. 4(3-3) Seventh-term Veter-
inary Medicine students.

Diseases of the integumentary system of animals with emphasis on laboratory examinations, interpretations of pathological features, diagnosis, and treatment.