447. Aging in Urban America
Fall, Winter, Spring, Summer. 3(3-0) Juniors or approval of department.
Public policy issues concerning the aged. Political, economic, and psycho-social aspects including evolving roles, housing and health needs, and minority issues. Investigation of programs for the aged. Potential for future.

461. Educational Segregation, Desegregation, Integration and Busing
Fall, 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 in public school integration on minority and majority groups.

463. Economics of Urban Education
Spring. 3(3-0) EC 201 or EC 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, and population needs and social mobility.

480. Independent Study
Fall, Winter, Spring, Summer. 2 to 4 credits. May enroll for a maximum of 5 credits. Approval of department.
Supervised individual study and projects.

485. Special Topics in Urban and Metropolitan Studies
Fall, Winter, Spring. 3 to 4 credits. May enroll for a maximum of 5 credits. Juniors or U D 200, S S 221.
Contemporary issues and problems in the urban area. The topics will vary from time to time.

498. Proseminar
Fall, Winter, Spring, Summer. 2 credits. Approval of department.
Students work with instructor in planning their field experiences, developing objectives and interviewing, and overall interpersonal skills necessary for the world of work.

499. Field Experience
Fall, Winter, Spring, Summer. 3 to 24 credits. May enroll for a maximum of 24 credits. U D 495 or approval of department.
Provide technical and employment skill development for students participating in field work settings as they work with an agency, organization or research project.

URBAN PLANNING AND LANDSCAPE ARCHITECTURE

College of Social Science

Urban Planning

203. Design of Cities
Fall. 3(3-0)
Examination and evaluation of the man-made urban environment, concentrating on the visual characteristics.

231. Evolution of Urban Communities
Fall. 3(4-0)
Historic interrelationships of various cultural influences and theoretical concepts on contemporary patterns, trends and problems of urban development and renewal.

233. The Role of Planning in Urban Development
Winter. 3(3-0)
Contemporary formal and informal roles of urban planners in various levels of government and private institutions. Influence exerted upon urban and regional development by governmental and private organizations.

243. Planning Communication
Spring. 4(2-4)
Development and presentation of planning materials emphasizing the coordination of speaking, writing, and graphic skills.

311. Site Planning and Construction I
Winter. 3(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.

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 techniques 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 analysis.

351. Spatial Design
Spring. 4(2-4) U P 233, U P 243.
Urban community functional physical elements at various scales. Laboratory work on planning problems related to human activity flows, terrain and structures, including land subdivision design.

352. Urban Design Problems
Fall. 4(0-8) U P 231.
Application of the physical design processes from the scale of individual element groupings to complete community units in a two and three dimensional context.

362. Fiscal Planning
Spring. 3(3-0) U P 233 or U P 400.
Analysis of costs associated with plan implementation, redevelopment, and preservation. Relationship between the budgeting process and the fiscal implications of planning.

363. Comprehensive Planning Process
Fall. 3(3-0) U P 333.
Theory and application of coordinated planning for urban development, including policies and development plans 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 U P 233 or U P 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 Department of Human Environment and Design.
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.

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
Fall. 4(0-8) 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 implementation programs.
Courses

806. Planning for Man and the Environment
Spring. 3(3-0)

Multi-dimensional environments of human settlements, normative characteristics, relationships to man, functional and dysfunctional situation, problems of comprehension, description, normative design criteria, contemporary issues, and relationships to planning.

808. Background of Urban Development Planning
Fall. 3(3-0)

American urban development from 1820 to the present, including shifts in technology and social forces that influenced development patterns. Problems faced by the professionals planner are emphasized.

Winter. 3(3-0) STT 201 or STT 421 or approval of school. Basic quantitative techniques used in planning, including statistics, linear methods, and network methods. Introduction to use of the computer. Intended for students with limited background in mathematics.

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

816. The Planning Process
(802.) Fall. 3(3-0)

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

818. Planning Theory: Theory of the Planning Process
(810A.) 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.

819. Planning Theory: Theories of Urban Forms and Structure
(810B.) 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.

824. Legal Bases for Planning
(830.) 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.

826. Planning Program Implementation
Fall. 3(3-0) Completion of the first year MUP Core Program or approval of school. An analysis of various techniques utilized by professional planners in effectuating plans and programs. Governmental roles in land use control, fiscal matters, taxation policies, and federal and state programs are stressed.

828. Planning Presentation Techniques
Fall. 2(1-2) or 3(1-4) Students with basic graphic skills should enroll for 2 credits. Approval of school. Communication skills utilized by planners to present policy proposals to governmental decision makers and citizens. Speaking, writing, and small group leadership is integrated with essential planning graphic skills.

834. Planning Practicum I
Fall. 3(3-0) 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.

835. Planning Practicum II
Winter. 3(3-0) U P 834. Continuation of U P 834.

836. Introduction to Design
(803.) Winter. 4(0-8) U P 824 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 man's cultural patterns.

840. Historic Preservation
Winter. 3(3-0) Seniors, approval of department, Interdepartmental with and administered by History of Art. History and philosophy of historic preservation; the new attitude toward preservation—historic districts and neighborhoods—adaptive use, documentation and tools for preservation; a project based on field research.

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

461C. Comprehensive Planning
Spring. 4(0-8) U P 461B, U P 471. Continuation of U P 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) U P 472. Current federal and state programs which affect local development and renewal. The grants process, including requirements, proposal preparation.

480. Historic Preservation
Winter. 3(3-0) Seniors, approval of department, Interdepartmental with and administered by History of Art. History and philosophy of historic preservation; the new attitude toward preservation—historic districts and neighborhoods—adaptive use, documentation and tools for preservation; a project based on field research.

481. Historic Preservation Planning
Spring. 3(3-0) Juniors. Interdepartmental with History of Art. Overview and analysis of the role of historic preservation in the urban planning process. Focus upon current and emerging techniques, programs, and approaches needed to create effective preservation efforts.

489. Internship in Urban Planning
Fall, Winter, Spring, Summer. 2(0-5) May reenroll for a maximum of 6 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. 2 credits. May reenroll for a maximum of 4 credits. Senior majors; approval of school.

508. Background of Urban Development Planning
Fall. 3(3-0)

American urban development from 1820 to the present, including shifts in technology and social forces that influenced development patterns. Problems faced by the professional planner are emphasized.

Winter. 3(3-0) STT 201 or STT 421 or approval of school. Basic quantitative techniques used in planning, including statistics, linear methods, and network methods. Introduction to use of the computer. Intended for students with limited background in mathematics.

515. Research Methods in Urban Planning: Applications to Planning Problems
(820.) Spring. 3(3-0) U P 814. Applied techniques used in planning research. Analysis and forecasting of urban population, economic activity, and land use. Analysis of transportation and other community facilities.

516. The Planning Process
(802.) Fall. 3(3-0)

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

518. Planning Theory: Theory of the Planning Process
(810A.) 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.

519. Planning Theory: Theories of Urban Forms and Structure
(810B.) 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.

524. Legal Bases for Planning
(830.) 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.

526. Planning Program Implementation
Fall. 3(3-0) Completion of the first year MUP Core Program or approval of school. An analysis of various techniques utilized by professional planners in effectuating plans and programs. Governmental roles in land use control, fiscal matters, taxation policies, and federal and state programs are stressed.

528. Planning Presentation Techniques
Fall. 2(1-2) or 3(1-4) Students with basic graphic skills should enroll for 2 credits. Approval of school. Communication skills utilized by planners to present policy proposals to governmental decision makers and citizens. Speaking, writing, and small group leadership is integrated with essential planning graphic skills.

534. Planning Practicum I
Fall. 3(3-0) 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.

535. Planning Practicum II
Winter. 3(3-0) U P 834. Continuation of U P 834.

536. Introduction to Design
(803.) Winter. 4(0-8) U P 824 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 man's cultural patterns.

540. Administration and Professional Practice
(832.) Winter of even-numbered years. 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 professionals, to public. Staff functions and responsibilities; administrative instruments; practice of the consultant, professional ethic.

542. An International Comparative Study of Urban Planning
(813.) 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
(821.) Spring of even-numbered years. 3(2-6) Approval of school. Regulation, stimulation, salvage, and replacement of housing through public policy and administrative procedures. Increasing role of private initiative as a partner to public action through conservation, rehabilitation, and redevelopment practices. Evaluation of trends and needs, analysis of case studies.

554. Urban Transportation Planning
(822.) Spring of even-numbered years. 3(2-6) Approval of school. Examination of travel, land use, and transportation networks. Transportation planning data, processes, and plans, and their implication on theory and practice of metropolitan planning. Field work in current transportation issues.

555. Urban Land Policy and Regulation
(831.) Spring of even-numbered years. 3(2-6) 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 applications of land use control instruments.
862. Development Planning and Administration
(890C) Spring of odd-numbered years.
5(2-6) 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 presented in accordance with most effective techniques and administrative procedures. Emphasis to be placed on the objective of unified, revitalized community development.

866. Urban Spatial Design
(801A) Spring of odd-numbered years.
5(0-10) 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.

870. Regional and State Planning
(801B) Spring of odd-numbered years.
5(2-6) 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.

874. Health Issues and the Urban Planner
Spring of odd-numbered years. 5(2-6)
Approval of school.
Relationships between the practices and concerns of urban planners and the health of individuals.

889. Internship in Urban Planning
Fall, Winter, Spring, Summer. 2(2-0)
May reenroll for a maximum of 6 credits. Graduate students in Urban Planning, approval of school.
Individual experience in approved agencies and departments in the Lansing area.

898. 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.

899. Research
Fall, Winter, Spring, Summer. Variable credit. May reenroll 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

100. Environmental Perception
Fall, Winter, Spring. 3(3-0)
Environmental design concepts, orientation to landscape architecture, including environmental inventory, objectives and aspects of public and private professional practice, and scope and types of landscape development projects.

110. Fundamentals of Design
Fall, Winter. 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
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
Winter. 3(3-0)
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) LA 120 and provincial 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
Winter. 4(1-5) LA 120 and provincial 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) LA 201, LA 240.
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) LA 120.
Principles and procedures for arrangement of plant compositions, emphasizing the perceptual characteristics of plants by means of models, sketches and plans, and applications to landscape developments. Field trips required.

303. Community Design Theory
Winter. 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
Fall. 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
Spring. 2(2-0)
Ecological and cultural considerations for development of open space and recreation areas, recreation systems, site design standards, and recreational land use programs and policies.

321. Advanced Graphic Communication
Fall, Winter. 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) Majors and LA 303.
Applications of community design theory and landscape design methods to representative community development, 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) Majors and LA 304.
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.

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, sitting 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(3-2)
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(1-3) May reenroll 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 areas. 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) LA 321.
Applications of advanced sketching, perspective and rendering techniques for typical professional presentations, including prints, reproductions, photography and multi-media audio-visual communications.

432. Site Engineering
Fall. 4(2-4) Senior majors and C E 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.

441. Regional Landscape Design
Winter. 3(0-6) Senior majors and LA 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 LA 403 concurrently.
Applications of urban design theory and landscape design methods to representative urban development projects, public places, pedestrian malls, civic and cultural complexes, etc., with written, oral and graphic representations. Field trips required.

451. Ecological Planting Design
Fall. 4(3-4) LA 250. LA 353 and HRT 211, HRT 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.

455. Architectural Design II
Winter. 4(1-6) LA 360, LA 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.

489. Landscape Architecture Internship
Fall, Winter, Spring, Summer. 2(0-8)
May enroll for a maximum of 6 credits. Juniors, approval of school. Supervised experience in approved public agencies and professional offices. Biweekly conferences. Eight work hours per week per term.

490. Special Problems
Fall, Winter, Spring, Summer. 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.

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.

500. Introduction to Veterinary Medicine IV
Spring, 3(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.

505. Veterinary Epidemiology
Summer. 2(2-0) Fifth-term Veterinary Medicine students.
Bioclimatic and physiological basis of metabolic and endocrine diseases of animals including diagnosis, treatment and management.

507. Urinary System
Summer. 4(3-3) Fifth-term Veterinary Medicine students.
Integrative approach to the understanding of the urinary system in health and disease of animals.

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(3-0) Sixth-term Veterinary Medicine students.
Normal and abnormal neural structure and function in animals with emphasis on clinical neurology and neuropathology.

513. Cardiovascular System
Fall. 4(3-3) Sixth-term Veterinary Medicine students.
Pathogenesis, diagnosis, and management of cardiovascular diseases of animals; anatomical, physiological, pathological and pharmacological principles providing basis for medical and surgical treatment—includes diagnostic and surgical procedures and radiologic interpretation.

VETERINARY MEDICINE V M (COLLEGE OF)

500A. Introduction to Veterinary Medicine I
(5SM 501.) Summer. 2(2-0) Admission 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.

500C. Introduction to Veterinary Medicine III
(LSM 503.) Winter. 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.