999 Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to doctoral students in Theatre.
Doctoral dissertation research.

URBAN PLANNING UP

Department of Geography
College of Social Science

100 The City
Spring. 3(3-0)
Evolution, character, dimensions and elements of cities.

201 The Role of Planning in Urban and Regional Development
Fall, Spring. 4(4-0)
Contemporary urban issues, historical contexts, and the role of planning in the solutions of the problems faced by cities and their surrounding regions.

314 Methods for Investigation of Urban Systems
Spring. 4(3-2) Interdepartmental with Geography. P:M: (STT 201 and CSE 101) RB: (UP 201)
Models, approaches, and techniques for urban and regional problem analysis, research, program evaluation, and project management. Application of related computer sof tware.

324 Visual Communication and the Design Process
Fall. 4(2-4) P:M: (UP 201 or concurrently) R: Open only to sophomores or juniors or seniors in Urban and Regional Planning.
Expressing concepts in visual terms for solutions to physical planning projects: graphic techniques and reproduction. Using the design process for solving land use problems: inventory, analysis, synthesis, community input and strategies for implementation.

343 Planning Theory: Ethics and Politics (W)
Spring. 4(4-0) P:M: (UP 201 or concurrently) and completion of Tier I writing requirement. R: Open only to sophomores or juniors or seniors in the College of Social Science.
Political impact of community decision-making on planning. Ethics and values of professional practice. Gender, equity, and diversity issues within this context will be explored.

353 Land Use Planning
Fall. 4(4-0) P:M: (UP 201 or concurrently) RB: (PLS 100)
Principles and techniques of land use planning, including role of social, economic and political sy stems. Comprehensive planning, neighbor hood/sector planning, practical tools for land regula tion and environmentally sensitive development.

365 Planning Law (W)
Spring. 3(3-0) P:M: (UP 201 and UP 323) and completion of Tier I writing requirement. R: Open only to juniors or seniors in Urban and Regional Planning or Interdisciplinary Studies in Social Science majors.
Statutory and case law for local government planning and development regulation.

400 Special Topics in Urban Planning
Fall of odd years. 2 to 4 credits. R: Open only to juniors or seniors in Urban and Regional Planning.
Issues and problems in contemporary urban planning.

408 Comparative Urban Development Planning
Spring. 3(3-0) P:NM: (UP 201) R: Open only to majors in Urban and Regional Planning, or Urban and Regional Planning-Urban Studies.
Community planning concepts and practices, tools and techniques in different countries. Case studies.

413 Urban Geography
Fall. 3(3-0) Interdepartmental with Geography. Administered by Department of Geography. R: Not open to freshmen or sophomores.
Theories and models of urban spatial form. Underlying structures and processes. Socio-spatial dimensions of modern urbanism. Differentiation and locational conflict in residential, commercial, and industrial space.

414 Geography of Transportation
Fall of odd years. 3(3-0) Interdepartmental with Geography. Administered by Department of Geography. P:M: (GEO 113) R: Not open to freshmen.
Spatial principles of transportation. Theories of interaction, network structures, and location-allocation models. Role of transport and transport planning.

415 Location Theory and Land Use Analysis
Fall. 3(3-0) Interdepartmental with Geography. Administered by Department of Geography. P:M: (GEO 113 or UP 201) RB: One of the prerequisites or an introductory ECON course. R: Not open to freshmen or sophomores.
Classical and neoclassical, static and dynamic models of industrial location and spatial organization. Land rent theory. Central place theory. Multilocational organization. Growth transmission.

418 The Ghetto
Fall of odd years. 3(3-0) Interdepartmental with Geography. Administered by Department of Geography. R: Not open to freshmen or sophomores.
Analysis of the ghetto including its spatial organization and structure. Distribution of racial and ethnic populations. Emphasis on U.S. cities.

425 Geographic Information Systems
Spring. 4(3-2) Interdepartmental with Geography. Administered by Department of Geography. P:M: (GEO 221)
Technical and theoretical issues in the design, evaluation, and implementation of geographic information systems for research and application.

437 Urban Design
Fall of even years. 3(1-4) R: Not open to freshmen or sophomores.
Urban design theory and application of physical design principles at various scales. Design of urban open space systems, building groupings, urban linkage, and site details in studio projects.

439 Golf Course Planning and Design
Fall of even years. 3(3-0) Interdepartmental with Landscape Architecture. P:NM: (LA 342) R: Open only to seniors or graduate students in Urban and Regional Planning or Urban and Regional Planning-Urban Studies or Landscape Architecture.
History, planning, and design of the golf course as a component of the community. Environmental, regulatory, technical, and financing issues.

454 Local Economic Planning
Fall. 3(3-0) P:M: (UP 353 and EC 201) RB: (UP 201) R: Open only to seniors in the College of Social Science. SA: UP 354
The economic component of comprehensive community planning. Taxation and services delivery. Fiscal health and physical and social development of a community.

457 Local Economic Development
Fall. 3(2-2) R: Open only to juniors or seniors.
Principles and techniques of local economic development planning. Impacts of state, federal, and global economic policies and programs.

458 Housing and Real Estate Development
Spring of even years. 3(2-2)
Real estate development process from idea inception to asset management. Finance, organization, design and implementation. Housing, social impacts, and public sector involvement.

463 Introduction to Quantitative Methods for Geographers and Planners
Fall. 3(3-0) Interdepartmental with Geography. Administered by Department of Geography. P:NM: Completion of University mathematics requirement. R: Open only to majors in Geography, Urban Planning, and Landscape Architecture.
Quantitative techniques in the analysis and classif ication of spatial data.

480 Internship in Urban Planning
Fall, Spring, Summer. 2 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to majors in Urban and Regional Planning or Urban and Regional Planning-Urban Studies. Approval of department.
Supervised planning experience in a professional setting.

483 Historic Preservation and Preservation Planning in the U.S.
Fall. 4(4-0) Interdepartmental with Landscape Architecture. R: Not open to freshmen or sophomores. Approval of department.
History and philosophy of the preservation of buildings, structures, and objects significant to the heritage of this nation. Preservation as a planning tool for local governments.

490 Independent Study in Urban Planning
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Not open to freshmen or sophomores. Approval of department.
Faculty-supervised individual study in aspects of urban planning.

494 Planning Practicum
Spring. 4(0-8) P:M: (UP 365 and UP 454)
Collection, analysis and synthesis of planning information for an established urban or regional area. Problem identification and alternative plan formulation. Formulation of comprehensive physical development policies and plans, implementation of programs.

800 Special Topics in Urban Planning
Fall, Spring, Summer. 2 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in Urban and Regional Planning.
Issues and current research in urban planning.

801 Concepts and Issues in Planning and Development
Fall. 4(4-0)
Urban and regional planning and development. History of the planning profession. Current urban issues and planning approaches.

814 Applied Research Methods for Planning and Development
Spring. 3(2-2) Interdepartmental with Geography. P:NM: (UP 813) RB: (UP 813) R: Open only to graduate students in Urban and Regional Planning, Public Administration, and Geography.
Techniques in urban and regional planning analysis. Forecasting models. Methods of urban project evaluation.

823 Urban Land Management
Fall. 4(4-0) P:NM: (UP 801 or concurrently)
Concepts, principles, tools, and techniques of urban and regional land management. Land use planning, public facilities, infrastructure location, and environmental sensitivity in land management.

834 Urban Design and Project Development
Spring. 3(1-4) P:NM: (UP 801) R: Open only to graduate students in Urban and Regional Planning.
Design of development projects. Integration of structures, spaces, activities, and design elements in various urban settings.

838 Land Use Law
Spring. 3(3-0) Interdepartmental with Resource Development; Agricultural Economics; Forestry. Administered by Department of Resource Development. P:NM: (RD 430)
Public and private land use controls in the U.S. Civil rights, housing, energy problems, growth management, waste management, and land conservation. Cases, statutes and other regulations.

844 Decision Theory for Urban Planning and Development
Spring. 4(4-0) P:NM: (UP 801) or two graduate courses in the Master of Public Administration program.
The planning and development process. Decision making in a political context. Professional ethics and practice. Gender, class, race and ethnicity in relationship to planning and development.

848 Urban Policy Analysis
Spring. 3(3-0)
History of national urban policy. Developmental stages in processing new public policies.

854 Economics of Planning and Development
Spring. 3(3-0) Interdepartmental with Geography. P:NM: (UP 801)
The physical urban environment and local economic development.

865 Planning and Development Law
Fall. 3(3-0) P:NM: (UP 801)
Constitutional and statutory bases for planning and development. Effects of case law on design, administration, and implementation of regulations.

867 Methods and Modeling in Regional Science
Spring of even years. 3(3-0) Interdepartmental with Geography; Resource Development. Administered by Department of Geography. P:NM: (EC 820 and GEO 865) and (GEO 415 and RD 461)
Techniques for regional research: economic base analysis, input-output analysis, mathematical programming, and econometric and simulation analysis.

868 Growth Management and Environmental Planning
Fall. 3(3-0) P:M: (UP 865 or concurrently and UP 801 or concurrently and UP 823) R: Open only to graduate students in Urban and Regional Planning or Urban and Regional Planning-Urban Studies or Geography.
Principles and techniques of growth management and environmental planning, with a focus on land use issues. Selected environmental regulation topics relevant to planning in urban areas.

889 Master's Research
Fall, Spring, Summer. 3 credits. P:NM: (UP 897 or concurrently) R: Open only to master's students in the Urban and Regional Planning major. Approval of department.
Supervised individual research for Plan B master's program.

890 Independent Study
Fall, Spring, Summer. 2 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Approval of department.
Faculty-supervised study in aspects of urban planning.

893 Internship in Urban Planning
Fall, Spring, Summer. 2 to 4 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Approval of department.
Supervised individual experience in approved agencies and departments in the Lansing area.

894 Planning Practicum
Fall. 4(0-8) P:NM: (UP 801 and UP 823 and UP 865) R: Open only to second-year master's students in the Urban and Regional Planning major. SA: UP 894A, UP 894B
Professional practice in the collection, analysis and synthesis of information by students or student groups under faculty supervision. Developing solutions to specific urban problems.

897 Research Writing Seminar
Fall. 2(2-0) R: Open only to second-year master's students in the Urban and Regional Planning major.
Research writing and presentation methods.

899 Master's Thesis Research
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P:NM: (UP 897) or concurrently. R: Approval of department.
Master's thesis research.

VETERINARY MEDICINE VM

College of Veterinary Medicine

101 Veterinary Medicine in Society
Spring. 1(1-0)
Role of the veterinary profession in animal and human health. Impact of veterinary medicine on society.

200 Veterinary Systems Biology and Medical Science I
Spring. 7(5-4) P:M: (CEM 141 and MTH 110) R: Open only to Veterinary Technology majors.
Multidisciplinary approach to the musculoskeletal system of animals. Integration of anatomy, physiology, pathophysiology, pharmacology, and nursing care of animals. Techniques of restraint. Patient management. Medical record keeping.

201 Veterinary Systems Biology and Medical Science II
Spring. 7(5-4) P:M: (CEM 141 and MTH 110) R: Open only to Veterinary Technology majors.
Multidisciplinary approach to the hematopoietic and cardiovascular systems of animals. Integration of anatomy, physiology, pathophysiology, pharmacology, and nursing care related to health and disease.

290 Special Studies in Veterinary Medicine
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to Veterinary Technology majors.
Faculty-directed individual study on an experimental, theoretical or applied problem. May involve a supervisedoff-campus experience.

300 Veterinary Systems Biology and Medical Science III
Fall. 7(5-4) P:M: (VM 200 and VM 201) and completion of Tier I writing requirement. R: Open only to Veterinary Technology majors.
Multidisciplinary approach to the neurologic and respiratory systems of animals. Integration of anatomy, physiology, pathophysiology, pharmacology, and nursing care related to health and disease.

301 Veterinary Systems Biology and Medical Science IV
Fall. 7(5-4) P:M: (VM 200 and VM 201) and completion of Tier I writing requirement. R: Open only to Veterinary Technology majors.
Multidisciplinary approach to the urinogenital and endocrine systems of animals. Integration of anatomy, physiology, pathophysiology, pharmacology, and nursing care related to health and disease.

302 Veterinary Systems Biology and Medical Science V
Spring. 7(5-4) P:M: (VM 300 and VM 301) and completion of Tier I writing requirement. R: Open only to Veterinary Technology majors.
Multidisciplinary approach to the gastrointestinal and integumentary systems of animals. Integration of anatomy, physiology, pathophysiology, pharmacology, and nursing care related to health and disease.