

# City and Regional Planning (CTRP)

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Course information contained within the Bulletin is accurate at the time of publication in June 2025 but is subject to change. For the most up-to-date course information, please refer to the Course Catalog.

## **CTRP 0807. People, Places, and Environment. 3 Credit Hours.**

Have you ever thought about the relationship people have to their place - home, neighborhood, town, or city? How about to the environment? Have you ever thought about how people have shaped the places of our everyday lives - suburban housing developments, shopping malls, and small towns? And, have you ever thought about what will happen in the future to the Earth's natural resources - the air, water, and land - as we continue to build and expand? Explore these kinds of questions through readings, lectures, video presentations, and group discussions. Challenge your mind - and imagination - and open up new avenues of discovery. NOTE: This course fulfills the U.S. Society (GU) requirement for students under GenEd and American Culture (AC) for students under Core. Students cannot receive credit for CTRP 0807 if they have successfully completed CTRP 1007, CRP 1007 or CRP C061.

**Course Attributes:** GU, SE, SF, SP

**Repeatability:** This course may not be repeated for additional credits.

## **CTRP 0821. Digital Mapping: From Mercator to Mashups. 4 Credit Hours.**

Almost all of us interact with digital maps regularly for finding directions and the locations of services, like the nearest coffee shop. Yet for most, the inner workings of digital maps remain a mystery. This course provides an in-depth exploration of how digital maps work - what technologies support location tracking, where do the mapped data come from, and how digital maps are used to analyze geographic problems in urban and environmental planning and policy, health, and business. Along the way, you will develop quantitative literacy by learning how to acquire spatial data, make digital maps, and critically evaluate mapping applications. NOTE: This course fulfills the Quantitative Literacy (GQ) requirement for students under GenEd and a Quantitative Reasoning (QA or QB) requirement for students under Core. Students cannot receive credit for CTRP 0821 if they have successfully completed CRP 0821, GUS 0821 or GUS 0921.

**Course Attributes:** GQ, SI

**Repeatability:** This course may not be repeated for additional credits.

## **CTRP 1001. Freshman Seminar/Discovery Series. 1 Credit Hour.**

Introduces first-year students to the purpose of higher education and the skills needed to use information technology and academic resources successfully in college and the workplace. Focuses on topics useful to college students, including time management, teamwork, study skills, and academic and career planning.

**Repeatability:** This course may not be repeated for additional credits.

## **CTRP 1017. City Planning Principles and Practice. 3 Credit Hours.**

Theory and practice of urban planning in the United States. Discussion of planning policy, methodology, and implementation in such areas as land use, housing, environment, economic development, and transportation. Particular emphasis is given to the ways in which values and ethics inform the planning process, as well as how societal changes are affecting our land use options. Note: Prior to fall 2017, the course title was "Introduction to Community and Regional Planning."

**Repeatability:** This course may not be repeated for additional credits.

## **CTRP 2114. Urban Form and Design. 3 Credit Hours.**

Basic design principles, techniques, and practices of sustainable urban form and design. The topics for most readings, projects, and guest lectures are people oriented and examine the many elements that contribute to the aesthetic and human quality of communities of all sizes. Through poster presentations, field visits, and other assignments, students analyze the nature of public spaces, streets and boulevards, landscaping, water, materials, light, scale, mass, and time. Explores the roles of unity, harmony, symbolism, and cultural values. Course readings have both historical and current references. Students participate in real-world urban design projects, visual design analyses, and presentations in a studio setting.

**Course Attributes:** SI, SS

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 2166. Land Use Planning. 3 Credit Hours.**

At the heart and soul of community and regional planning is land use. How we use land and the institutional and legal basis by which we establish and implement land use goals are key elements in how our communities and regions are shaped. This course examines the foundations of land use planning, which begins with an understanding of attitudinal, value, and ethical perspectives of how land resources are used. The range of land use implementation approaches - regulatory, fiscal, incentives, and public investment - are also evaluated. The course additionally discusses the importance of ecological planning and design as prospects for contemporary land use planning to create sustainable communities and regions. NOTE: This course is not open to students who have taken Geography and Urban Studies 4015 (0215).

**Course Attributes:** SE, SI, SP, SS

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 2213. Environmental Planning. 3 Credit Hours.**

A comprehensive overview of physical and environmental systems, including land, air, and water, and how planning can be conducted to protect such systems. Topics include environmental assessments and impact statements, storm water and floodplain management, water conservation, protection of open spaces and water supplies, waste management, and air pollution control.

**Course Attributes:** SE, SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 2251. Sustainable Food Systems Planning. 3 Credit Hours.**

Planners are paying attention to the notion of food system planning: farm land preservation and environmental stewardship; economic development including distribution, processing, employment and globalization; and food security, involving access to affordable, healthy foods. There are also issues of public health, food cultures, consumer spending patterns, and education. This course explores all of these concerns. Guest speakers and field trips provide a focus on regionally based food systems initiatives. Course readings and lectures address work that is underway elsewhere in North America. Students develop an appreciation for the ways in which a food systems perspective can enrich community planning efforts and create more sustainable and vital places in which to live and flourish.

**Course Attributes:** SE, SF, SP, SS

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 2524. Fundamentals of Geographic Information Systems (GIS). 3 Credit Hours.**

Basic principles and techniques of GIS, a computer-based system that uses spatial (geographic) data to analyze and solve real-world issues. Lab exercises, exams, and projects emphasize spatial data collection, entry, storage, analysis, and output using ArcGIS, the most widely used desktop GIS software. Students are expected to create maps, following basic cartographic rules and techniques, and to understand basic spatial data analysis techniques, including spatial query, geo-processing, and surface analysis. NOTE: This course is not open to students who have taken Geography and Urban Studies 3062 (0262). This course is the prerequisite for Advanced GIS (CTRP 5525) for all students (both undergraduate and graduate).

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 3155. Ecological Planning and Development. 3 Credit Hours.**

The fundamentals of the ecological planning method developed by landscape architect and regional planner, Ian McHarg, establish a basis to plan and develop both individual projects and entire communities that can be enduring (sustainable). Students examine both theory and practice in the relationship between ecological planning and actual development. Case studies, field trips, and guest presenters will highlight specific examples of the successful implementation of ecological planning by the private development sector.

**Course Attributes:** SE, SF, SP

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 3255. Sustainability in Suburban Communities. 3 Credit Hours.**

The physical forms of suburban communities and the social and economic patterns that shape residents' lives make achieving sustainability in suburbia challenging and problematic. Distances between homes, businesses, and worksites are long, transportation choices are few, infrastructure needs are extensive and costly, and impacts on ecological systems can be severe. Many argue that higher-density, urban living holds our best promise for an environmentally sustainable future in the United States, but half of all Americans live in suburbia and finding sustainable solutions for them and their communities must be part of the solution. Lectures, readings, and discussions in this course address sustainability in suburban communities by covering the history of the American suburb and processes of suburbanization; architecture and housing; landscape and community design; transportation and infrastructure; built and natural environments and ecological systems; and planning, administration, and regionalism.

**Course Attributes:** SE, SF, SP, SS

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 3256. Sustainable Community Design and Development. 3 Credit Hours.**

Introduces students to the concept of sustainable development and how it has been applied to the design and development of communities. Beginning with an examination of the historical evolution of the concept of sustainable development, students then review the discourse of theory and practice of sustainable development at local, regional, and global levels. Review of case studies to understand how to evaluate the level of sustainable development principles being incorporated into planning practice.

**Class Restrictions:** Must be enrolled in one of the following Classes: Junior 60 to 89 Credits, Senior 90 to 119 Credits, Senior/Fifth Year 120+ Credits.

**Course Attributes:** SF, SP, SS

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 3555. Internet and Digital Technologies for Community Engagement. 3 Credit Hours.**

Emerging technologies are directly influencing the planning and management of our urban areas in very profound and pervasive ways. Planning and related professionals increasingly are adopting new technologies to develop plans, communicate ideas and concepts, and engage citizens in the decision-making process. The course introduces many fundamental technology concepts including: e-Planning and e-Government; Cybercities; e-Commerce & Economic Development; Web 1.0, 2.0, 3.x, Web Conferencing Tools; Online Project Collaboration Methods; IT Project Management; Section 508 Accessibility; Planning in Virtual Worlds; Municipal Wireless Networks & Public Spaces; and Digital Divide. Through a series of labs and assignments, students gain hands-on experience with each of these technologies.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 3655. Transportation Planning. 3 Credit Hours.**

Presents an overview of the history of transportation in the United States and the fundamentals of present day transportation planning and policies. Explores the influences of urban form on: modal choice; accessibility and mobility of various population subsets (such as the economically- and physically-disadvantaged); regional and local travel demand; and the operational efficiency of transit, highways, bicycle, pedestrian and other modes of transportation. Covers the impact of transportation investments on land use and regional population growth, and on environmental, community, and economic sustainability. Introduces students to currently used transportation planning methodologies, legal requirements, and decision-making processes. By studying actual transportation projects, students develop a plan for an assigned project.

**Course Attributes:** SE, SI, SP, SS

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 3755. Introduction to Emergency Management Planning. 3 Credit Hours.**

Provides a fundamental understanding of the emergency planning process, the phases of emergency management, and the roles and responsibilities of all parties involved. Students work in a classroom environment, interacting with others on various assignments, projects and presentations.

**Course Attributes:** SI

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 3860. Topics in Community & Regional Planning. 1 to 3 Credit Hour.**

Variable offerings from semester to semester of selected topics not part of the regular listing of courses. The topic can be in an area of specialization of a faculty member or an examination of a current development in the field. NOTE: Students may obtain a description of the current version at the department office and in the schedule of classes. This course may be repeated for credit.

**Course Attributes:** SF

**Repeatability:** This course may be repeated for additional credit.

**CTRP 3870. Special Topics. 1 to 3 Credit Hour.**

Variable offerings from semester to semester of selected topics not part of the regular listing of courses. The topic can be in an area of specialization of a faculty member or an examination of a current development in the field. NOTE: Students may obtain a description of the current version at the department office and in the schedule of classes. This course may be repeated for credit.

**Repeatability:** This course may be repeated for additional credit.

**CTRP 3882. Independent Study. 1 to 3 Credit Hour.**

Explorative study or research not met in any established course. Initiated by the student, the project must be sponsored by a faculty member with an approved agreement outlining the content and requirements, including readings, meetings, and papers. NOTE: Students must have the agreement of a faculty sponsor and must submit a formal proposal to this faculty member and Department before registering for the course. A maximum of 3 s.h. of Community and Regional Planning directed reading/study or independent study may be used as elective credit toward the Community and Regional Planning major.

**Repeatability:** This course may be repeated for additional credit.

**CTRP 3883. Directed Reading/Study. 1 to 3 Credit Hour.**

Advanced reading/study tutorial arranged between the student and a faculty member. Requirements are jointly determined relative to the specific focus of the course and may include literature review; preparation of journals, bibliographies and/or paper(s); and participation in regularly scheduled discussions. The level of work required is equivalent to a traditional course. Writing skills are evaluated for the final grade. Students are expected to demonstrate personal initiative in framing and meeting course requirements. NOTE: A maximum of 3 s.h. of Community and Regional Planning directed reading/study or independent study may be used as elective credit toward the Community and Regional Planning major.

**Repeatability:** This course may be repeated for additional credit.

**CTRP 3889. Planning Studio. 3 Credit Hours.**

A culminating experience for undergraduates that demonstrates their abilities to resolve real-life problems. Working in small teams, students integrate and apply the previous years of educational experience to a community planning problem: analysis of the problem, data collection, communication of goals and objectives, formulation of a solution, and implementation. NOTE: Studio topics vary. This course may be repeated for credit.

**Field of Study Restrictions:** Must be enrolled in one of the following Majors: Community and Regional Plannin.

**Class Restrictions:** Must be enrolled in one of the following Classes: Junior 60 to 89 Credits, Senior 90 to 119 Credits, Senior/Fifth Year 120+ Credits.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Bachelor of Science.

**Repeatability:** This course may be repeated for additional credit.

**Pre-requisites:** Minimum grade of D- (except where noted) in (CRP 2513 or CDEV 2596), (CTRP 2524 or CRP 2524), and (CTRP 4896 (C- or higher) or CRP 4896 (C- or higher))

**CTRP 4885. Internship and Professional Practice in Planning. 3 Credit Hours.**

Student must be a Community and Regional Planning major who has completed: CTRP/CRP 1017, 1027, 2014, 2213, 2496, 2513, 2524; plus at least one Community and Regional Planning elective. Students may register for CTRP 4885 only once. Requires 180 hours of supervised internship experience with public agencies, non-profit institutions, and private entities. Must have a designated field supervisor. Emphasizes the acquisition and application of practical skills in planning.

**Field of Study Restrictions:** Must be enrolled in one of the following Majors: Community and Regional Plannin.

**Class Restrictions:** Must be enrolled in one of the following Classes: Senior 90 to 119 Credits, Senior/Fifth Year 120+ Credits.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Bachelor of Science.

**Repeatability:** This course may be repeated for additional credit.

**CTRP 4896. Community and Regional Planning Senior Capstone Seminar. 3 Credit Hours.**

Students complete a capstone project that simulates the type of work and project research likely to be undertaken in the first years of employment in a planning office. This involves developing and researching a planning topic. NOTE: Fulfills the capstone writing intensive requirement for the Community and Regional Planning major.

**Field of Study Restrictions:** Must be enrolled in one of the following Majors: Community and Regional Plannin.

**Class Restrictions:** Must be enrolled in one of the following Classes: Senior 90 to 119 Credits, Senior/Fifth Year 120+ Credits.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Bachelor of Science.

**Course Attributes:** WI

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:** Minimum grade of D- in (CTRP 2114 or CRP 2114), (CTRP 2213 or CRP 2213), (CDEV 2596 or CRP 2513), and (CTRP 2524 or CRP 2524)

**CTRP 5011. Planning Practice and Equity. 3 Credit Hours.**

This course provides a survey of key historical moments and contemporary debates that have shaped the field of urban planning. It conceives of planning as a field of practice that is influenced and influences broader social, economic, political, and environmental factors. Students will critically examine the way planners across history have and have not upheld values of racial, gender, economic and environmental equity in their practice, and delve into current debates around equity justice and inclusion through case studies and conversations with practitioners working in the field. Through readings, assignments and class discussions students will engage with various streams of planning thought, and critically compare intellectual approaches to planning. They will examine the historical roots of these ideas and analyze how intellectual approaches have evolved and/or persisted over time to influence current practice. In both its focus on history and contemporary practice, the course asks students to engage critically with both the successes and failures of the practice to live up to the field's ethical mandate of building a more just, equitable city. The course will also introduce and discuss the landscape of planning practice in Philadelphia and more broadly, covering the legal and institutional entities that set the context for professional practice, historically and today.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 5013. Planning History and Theory. 3 Credit Hours.**

Coursework focuses on examining important trends in planning theory and placing them in a historic context. This approach facilitates an understanding of the relationship between the theoretical conceptualizations of urban form and the functional manifestations of those conceptualizations, which are key to relating planning theory to planning practice. The course strives to identify practicable as opposed to heuristic planning theory. These distinctions are extensively explored. A review of the contribution of "planning pioneers" provides a synthesis to contemporary planning problems and issues. A concluding examination of ecology and planning theory offers a direction for planning theory and practice in the 21st Century.

**Cohort Restrictions:** Must be enrolled in one of the following Cohorts: XMSCR.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 5014. Planning Politics and Administration. 3 Credit Hours.**

This course outlines the political and administrative environment of planning, including the influences of pluralism and federalism on planning in the United States. It introduces students to various agencies and organizations that conduct or impact planning, including public agencies, authorities, consulting firms, and non-profit organizations. Coursework explores policy implementation, including legislation, regulation, negotiation, and incentives, and the role of organizations and planners as professionals with respect to the current literature on organizational theory and development.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 5113. Nonprofit Management. 3 Credit Hours.**

The course provides an overview of management of nonprofit organizations, including issues pertinent for nonprofit managers and leaders faced with changing organizational environments. Most community development activities are centered within a nonprofit organization or work closely with these community-based organizations. Students are introduced to the major aspects of nonprofits and voluntary organizations that distinguish them from public and private organizations: mission/vision; legal definitions/IRS rulings; voluntary governance structures; and a social change agenda. Topics covered include the history and scope of the nonprofit sector, variations within the sector, contemporary theories of nonprofit enterprise, growth in the international nonprofit sector, management issues which pertain to nonprofits, financial management, accountability, human resources management, strategic planning, collaborative partnerships, leadership, advocacy, and the future of the sector.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 5115. Comprehensive Land Use Planning. 3 Credit Hours.**

Land use planning is central to professional practice. Community vision, as expressed in comprehensive plans, and enforced through local zoning ordinances, is a core factor in the long-term development of neighborhoods, cities, and regions. This course provides an overview of land-use planning regulations, tools, and practices. Students will learn about the history and legal foundations of land use planning, best practices in plan design and implementation, how to read and develop zoning ordinances, and how to develop the parts of a comprehensive plan.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 5157. Community-based Organizations in Planning. 3 Credit Hours.**

Examines the forty year history of community-based organizations (CBOs) and the important role they play in the housing, economic and social development in low-income communities. CBOs strive to build community leadership and empower low-income people to take charge of their own future. Understanding the role of such organizations is crucial in being an effective planner. Profiles a select number of the over five hundred CBOs in Philadelphia to learn about land trusts, housing development, Neighborhood Advisory Committees, resident associations, service districts, tenant councils and faith-based programs. Field trips to a number of community-based organizations to supplement classroom discussions.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 5251. Sustainable Food Systems Planning. 3 Credit Hours.**

Planners are paying attention to the notion of food system planning: farm land preservation and environmental stewardship; economic development including distribution, processing, employment and globalization; and food security, involving access to affordable, healthy foods. There are also issues of public health, food cultures, consumer spending patterns, and education. This course explores all of these concerns. Guest speakers and field trips provide a focus on regionally based food systems initiatives. Course readings and lectures address work that is underway elsewhere in North America. Students develop an appreciation for the ways in which a food systems perspective can enrich community planning efforts and create more sustainable and vital places in which to live and flourish.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 5256. Sustainable Climate Resilience. 3 Credit Hours.**

This course will examine approaches to climate resiliency and sustainability from local to global levels with an emphasis on the impact of decisions regarding land-use, natural and built environments, and equity. Through lectures, readings, guest lectures, and case study research students will critically evaluate strategies developed for the City of Philadelphia and the region as well as leading examples from other cities and countries. Students will apply and demonstrate their knowledge gained through the development of plans and designs incorporating climate adaptation and mitigation, sustainability, social equity, and emerging strategies as well as indicators to monitor progress and document outcomes.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 5313. Community Development Finance. 3 Credit Hours.**

The course examines the history and practice of community development finance in the United States. Low-income communities face particular challenges in meeting their credit needs through the traditional financial sector. Over the past 100 years, various institutions have developed to both advocate for change and to cover this gap. The course explores strategies for developing assets for low-income families and low-income communities. Different types of community development finance projects are discussed, including affordable housing, charter schools, community facility, small business lending, and nonprofit real estate projects. The course concludes with an examination of continuing challenges to meet the depository and credit needs of low-income communities.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 5413. Public Participation and Collaboration. 3 Credit Hours.**

Planners are responsible for designing inclusive public participation programs that seek to engage communities in decision-making. Through this course students will develop foundational skills in planning, designing, and facilitating public participation strategies aimed at engaging communities in building solutions to complex urban issues. Students will develop critical thinking skills through the analysis of public participation approaches and the design of inclusive processes to address historic and persistent power imbalances, to engage stakeholders with divergent interests, and to facilitate dialogue fostering consensus-based outcomes. Students will participate in multiple role simulations to build skills in facilitation, negotiation, and collaboration.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.



**CTRP 5455. Community Engagement and Empowerment. 3 Credit Hours.**

This class explores the theory and practice of involving citizens in agency-led and community-based planning processes. Readings, class discussions, case studies, and guest lectures emphasize building knowledge and skills necessary to develop open and inclusive processes using a continuum of civic engagement practices such as community organizing, outreach and education, interactive tools and technologies, charrettes and full empowerment.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 5461. Graphic Communications and Design. 3 Credit Hours.**

Visual media can be effective tools to communicate the complex concepts, ideas, and solutions that professional planners consider daily. This course is meant to prepare planning students to communicate their ideas using industry-standard representation methods. Using graphic design software, students will learn the basic technical skills needed to make and organize graphics that are typically used for physical planning and urban design. These drawings include site plans, perspective renderings, and infographics. Course exercises and assignments are geared towards creating the types of visual deliverables common in professional practice. Students will come away from the course with materials that they can use in a portfolio.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 5513. Planning Analysis. 3 Credit Hours.**

This course introduces a set of analytical tools that are widely used in community and regional planning practice. The course explores both conceptual and operational understandings of a broad range of analytical methods and techniques. Students learn to obtain data; select and use the most appropriate analytical methods (with an emphasis on computer applications, such as Microsoft Excel); and present their results effectively. Topics covered include data sources and collection, application of statistics to planning practice, demographic models, population projections and forecasts, regional economic analysis, and other methods common to planning analysis.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 5524. Spatial Analysis Techniques/Geographic Information Systems. 3 Credit Hours.**

Introduction to basic principles and techniques of Geographic Information Systems (GIS), a computer-based tool using spatial (geographic) data to analyze and solve real-world problems. Applications are from community and regional planning and other related disciplines. Lab exercises emphasize spatial data collection, entry, storage, analysis, and output using the software "ArcGIS." Students are introduced to GIS datasets used by the Center for Sustainable Communities, a research center in the Department of Planning and Community Development. Some lab assignments are based on planning issues in Southeastern Pennsylvania.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 5525. Advanced Techniques in Geographic Information Systems (GIS). 3 Credit Hours.**

This course explores ArcGIS extensions, including Spatial Analyst, 3D Analyst, Network Analyst, and Image Analyst, and their uses in the field of community and regional planning. It introduces data collection methods, using GPS and Aero-Triangulation; the GIS-based concepts and applications of land suitability analysis; and Planning Support Systems software (such as CommunityViz and Index) for land-use forecasting and planning. Students work on real-world environmental planning projects in a studio setting using local and regional data sets. Guest lectures are offered by GIS practitioners.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SI

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:** Minimum grade of C- in (CTRP 5524 or CRP 5524)

**CTRP 5810. Topics in Equitable Community Development. 3 Credit Hours.**

Variable offerings are made from semester to semester on selected topics not part of the regular listing of courses. The topic will be within the Equitable Community Development concentration of the degree, within an area of specialization of a faculty member or an examination of a current development in the field. Topics may include housing policy, affordable housing and finance, preservation policy and planning, or other similar courses. Note: A description of the current course offering can be obtained at the department office and in the schedule of classes. This course may be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**CTRP 5820. Topics in Sustainability and Climate Resilience. 3 Credit Hours.**

The course examines innovative practices in integrated sustainability and climate resilience. Topics will address a range of issues related to sustainability, climate resilience and equity within the realm of city and regional planning. Note: This course may be taken up to two times provided that there is a different topic each time. For further information, check with your advisor.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**CTRP 5830. Topics in Land Use and Transportation Planning. 3 Credit Hours.**

The course examines innovative practices in integrated land use and transportation planning. Topics will address a range of issues related to mobility, transit, access, and emerging trends within realm of sustainable, resilience, and equitable land use and transportation planning. Note: This course may be taken up to two times provided that there is a different topic each time. For further information, check with your advisor.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**CTRP 5840. Topics in Physical Planning and Design. 3 Credit Hours.**

Variable offerings are made from semester to semester on selected topics not part of the regular listing of courses. The topic will be within the Physical Planning and Design concentration of the degree, within an area of specialization of a faculty member or an examination of a current development in the field. Topics may include site planning and access, public spaces, infrastructure, design studios, or other similar courses. Note: A description of the current course offering can be obtained at the department office and in the schedule of classes. This course may be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**CTRP 8013. Planning History and Theory. 3 Credit Hours.**

Coursework focuses on examining important trends in planning theory and placing them in an historic context. This approach facilitates an understanding of the relationship between the theoretical conceptualizations of urban form and the functional manifestations of those conceptualizations, which are key to relating planning theory to planning practice. The course strives to identify practicable as opposed to heuristic planning theory. These distinctions are extensively explored. A review of the contribution of "planning pioneers" provides a synthesis to contemporary planning problems and issues. A concluding examination of ecology and planning theory offers a direction for planning theory and practice in the 21st Century.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SI

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8016. Planning Law. 3 Credit Hours.**

Coursework addresses selected aspects of the field of law of planning and urban development, including constitutional, property, nuisance law, administrative law, state and local government law, and zoning and subdivision regulation. It seeks to impart an understanding of the nature of law and the structure and processes of the judicial system by using urban land-use control law as the vehicle. It explores the relationships between the courts and the legislatures, especially the municipal legislative bodies that have primary responsibility for regulating land development and land use. Students learn legal research methods and are exposed to the wealth of trenchantly written, up-to-date materials that are available on the web and in the law library.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.



**CTRP 8056. Public Budgeting and Finance. 3 Credit Hours.**

Knowledge of budget concepts and financial management is required for the successful operation of government, nonprofit, and for-profit organizations. The course addresses the basics of public budgeting for those with little or no experience and presents more advanced concepts for those who have some experience in budgeting and finance. Discussion of the entire budget process, including budget formulation and execution, program development, cost and revenue estimation, internal controls and audits, budget strategies and tactics, capital budgeting and debt management. Uses case studies, in class discussions, and guest speakers involved in the development of state and local budgets to provide a broad understanding of the practical and political aspects of public budgeting.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8114. Urban Form and Design. 3 Credit Hours.**

This course examines the many elements that contribute to the aesthetic and human quality of communities of all sizes. It analyzes the nature of public spaces, streets and boulevards, landscaping, water, materials, light, scale, mass, and time. The roles of unity, harmony, symbolism, and cultural values are explored. The course has both historical and current references. Students participate in design projects, visual design analyses, and presentations.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8155. Ecological Planning and Development. 3 Credit Hours.**

The fundamentals of the ecological planning method developed by landscape architect and regional planner, Ian McHarg, establish a basis to plan and develop both individual projects and entire communities that can be enduring/sustainable. Students examine both theory and practice in the relationship between ecological planning and actual development. Case studies, field trips, and guest presenters highlight specific examples of the successful implementation of ecological planning by the private development sector.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8156. Neighborhoods, Cities, and Regions. 3 Credit Hours.**

More than 80% of the U.S. population now lives in urbanized areas. This course examines the history of the development of urban (and suburban) form, together with some of the environmental, physical, social, and economic factors that created or influenced those forms. Emphasis is on the development of the European and North American city, from Athens to imperial Rome, to the 19th- and 20th-century industrial metropolis, and its suburbs. (Other great cities of the ancient world may be discussed.) The course looks at the late 20th-century unraveling of the urban fabric and the de-concentration of cities.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8165. Placemaking: Revitalizing Urban Communities. 3 Credit Hours.**

The term placemaking, often used interchangeably with creative placemaking, refers to a particular approach to community building and revitalization that has gained popularity in recent years. Through readings, lectures, exercises, and tours students will explore placemaking practices focused on asset based, bottom up approaches that seek to enhance the social fabric while improving physical places. This includes local economic development and revitalization practices that value community identity as expressed in local cultural historic and natural resources, but also includes other types of practices that simply seek to create a sense of "place" in some otherwise under-used or ill-defined space. Students will assess place-making practices and identify opportunities for placemaking in Philadelphia's neighborhoods.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8166. Land-Use Planning. 3 Credit Hours.**

At the heart and soul of community and regional planning is land use. How we use land and the institutional and legal basis by which we establish and implement land-use goals are key elements in how our communities and regions are shaped. This course examines the foundations of land-use planning, which begins with an understanding of attitudinal, value, and ethical perspectives of how land resources are used. The range of land-use implementation approaches - regulatory, fiscal, incentives, and public investment - is also evaluated. The course additionally discusses the importance of ecological planning and design as prospects for contemporary land-use planning to create sustainable communities and regions.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8175. Gentrification and Equitable Development. 3 Credit Hours.**

With the recent revitalization of cities, gentrification has become a real, complex and highly contested issue that represents progress for some and displacement or its threat for others. This course investigates gentrification and interventions aimed at limiting its negative effects. Through analyzing academic literature, current events and case studies, we consider: the process, forms, agents and impacts (positive and negative) of gentrification; examine the roles of policy, planning and community development in the gentrification process; and investigate programs and strategies that practitioners could implement to foster equitable development.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8213. Environmental Planning. 3 Credit Hours.**

Environmental concerns faced by planners and the methods used to address them are the focus of this course. It applies principles of the natural sciences and ecological planning in the analysis of the physical environment and the development of policies and plans. The course examines the constraints and opportunities presented by the natural environment and complexities of developing policies to protect and manage natural resources and local and regional plans that address sustainability, climate change, and vulnerability as well as community concerns.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8255. Sustainability in Suburban Communities. 3 Credit Hours.**

The physical forms of suburban communities and the social and economic patterns that shape residents' lives make achieving sustainability in suburbia challenging and problematic. Distances between homes, businesses, and worksites are long; transportation choices are few; infrastructure needs are extensive and costly; and impacts on ecological systems can be severe. Many argue that higher-density, urban living holds our best promise for an environmentally sustainable future in the United States, but half of all Americans live in suburbia and finding sustainable solutions for them and their communities must be part of the solution. Lectures, readings, and discussions in this course address sustainability in suburban communities by covering the history of the American suburb and processes of suburbanization; architecture and housing; landscape and community design; transportation and infrastructure; built and natural environments and ecological systems; and planning, administration, and regionalism.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8257. Environmental Policy. 3 Credit Hours.**

This course identifies the complexities associated with environmental politics and management from both national and international perspectives. The first part of the course discusses the basics of natural environmental processes and the difficulties of environmental policy formulation and implementation including risk assessment, watershed resource management, and public lands management. The second part describes and evaluates command and control processes, primarily focusing on air, water, and solid waste abatement. The final part examines large-scale global issues such as climate change and sustainable development and assesses the implications of energy use and the future of environmental management.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8266. Sustainable Business Practices. 3 Credit Hours.**

Environmental issues and their impact on business, communities, institutions, and the general public are comprehensively explored. The course examines the need for companies to effectively manage environmental issues in light of increased public demand for businesses to take a stewardship role over natural resources and environmental protection. It provides students with a broad and practical understanding of environmental sustainability concepts, and examines how challenges associated with sustainable development are multifaceted, involving economic, social, and environmental concerns. The course explores how these concerns alter business strategies and practices and lead to new opportunities. Case studies and lectures are used to build technical proficiencies. Lectures are offered by guest experts. Note: Cross-listed with Strategic Management 5191.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8267. Water Resources Planning and Management. 3 Credit Hours.**

Water is one of the earth's most important resources. Without it we cannot survive. Yet its management is complicated and highly contentious. This course evaluates various aspects of water resources, including water quality, flooding, and water supply and allocation, and how global warming will influence the quality and quantity of future supplies. Various forms of management are evaluated, ranging from fragmented management to more integrated forms such as multi-jurisdictional river basin management and ecosystem management. Water resources planning and management is also evaluated from multiple perspectives: local, state, national and international. The course evaluates numerous case studies and includes guest speakers with national and international expertise.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8276. Regional Development. 3 Credit Hours.**

Coursework provides the fundamentals for understanding regional development and examines the theories that explain why cities and regions grow, as well as the spatial patterns of urban and regional development. In addition to theory, students are introduced to the key analytical methods that have been developed to characterize regional development patterns and predict future regional growth. By the end of the course, students have the requisite skills to complete a local development plan and have a clear understanding of the literature and tools of regional development.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8355. Environmental Infrastructure Planning and Management. 3 Credit Hours.**

Introduces students to the practice of planning and managing municipal and regional environmental infrastructure programs that typically fall under the realm of a local or county department of public works or environmental planning. Covers the historical development, governing regulations, current status and innovative trends with respect to comprehensive solid waste management, wastewater treatment, drinking water supply, stormwater management, district heating/cooling systems and green energy, and multi-purpose greenways. Infrastructure finance such as capital budget, operations and maintenance, and funding are discussed. Guest speakers present case studies to complement class discussions and student-lead case study research. Open to students from all disciplines.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8455. Planning Processes and Project Management. 3 Credit Hours.**

Emphasizes the integration of planning and project management and stresses the fundamentals of project management as essential for a successful planning process. Provides the student with an understanding of the framework of an effective planning process, while developing skills in project management. Topics include: creating a vision for the planning process; managing resources and costs; integrating interest groups into the planning process; measuring outcomes; and communicating results.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8476. Collaborative Planning. 3 Credit Hours.**

Students examine the theories, principles, and practices of collaborative planning with a special emphasis on resolving conflicts over land-use planning issues and planning for complex environmental systems. The course emphasizes a range of collaborative planning modes, including negotiation, facilitation, and partnerships. Students engage in a series of hands-on simulations involving communicating complex concepts and building consensus with the goal of developing student skills for effective leadership of collaborative planning and management endeavors.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8555. Internet and Digital Technologies for Community Engagement. 3 Credit Hours.**

Emerging technologies are directly influencing the planning and management of our urban areas in very profound and pervasive ways. Planning and related professionals increasingly are adopting new technologies to develop plans, communicate ideas and concepts, and engage citizens in the decision making process. The course introduces many fundamental technology concepts, including e-Planning and e?Government; Cybercities; e-Commerce and Economic Development; Web 1.0, 2.0, 3.x, Web Conferencing Tools; Online Project Collaboration Methods; IT Project Management; Section 508 Accessibility; Planning in Virtual Worlds; Municipal Wireless Networks and Public Spaces; and Digital Divide. Through a series of labs and assignments, students gain hands?on experience with each of these technologies.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8655. Transportation Planning. 3 Credit Hours.**

The course presents an overview of the history of transportation in the United States and the fundamentals of present-day transportation planning and policies. It explores the influences of urban form on modal choice; accessibility and mobility of various population subsets (such as the economically and physically disadvantaged); regional and local travel demand; and the operational efficiency of different types of transportation systems (transit, highways, bicycle, and pedestrian). Coursework covers the impact of transportation investments on land use and regional population growth, and on environmental, community, and economic sustainability. It introduces students to currently used transportation planning methodologies, legal requirements, and decision-making processes. By studying actual transportation projects, students develop a plan for an assigned project.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8656. Integrated Transportation and Land-Use Planning: Context-Sensitive Design Solutions. 3 Credit Hours.**

Context-sensitive design seeks to blend transportation functions with other human activities and land-use characteristics. Often transportation and land-use decisions have worked at cross-purposes due to the inconsistency of scales, the traditional focus of transportation project planning on functional and engineering concerns, and development decisions made without adequate regard to traffic impacts. This course covers basic operational and safety requirements of various transportation systems, with special emphasis on bicycle and pedestrian travel, and appropriate designs for different types of development and policy objectives, such as downtown revitalization or decreasing reliance on the automobile. The latter part of the course is devoted to a studio design project in which students apply design principles to solve a transportation and/or land-use problem.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8657. Non-motorized Transportation Planning. 3 Credit Hours.**

Transportation planning in the United States has long focused on improving conditions for motorized travel, primarily by personal cars and light duty trucks. The effects of an over-emphasis on motorized travel on energy consumption, traffic congestion, and the physical form of our communities, however, have led to the promotion of non-motorized transportation - that is, travel on foot and bicycle. This course is designed to develop an appreciation of the role of non-motorized transportation in the United States; to understand the conflicts and opportunities for compatibility between different modes of transportation; and to gain skills in planning for safer, more convenient, and more appealing walking and bicycling conditions in American cities and suburbs. Class sessions consist of a mix of lectures, discussions, and individual and group exercises.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8666. Travel Demand Modeling. 3 Credit Hours.**

This course provides an overview of regional transportation planning, emphasizing hands-on experience with travel demand modeling. It addresses the transportation management and planning process in support of policy development, environmental and system management, improvement programming, and impact analysis. The role of travel estimation is explored as it relates to the key stages of these undertakings.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:** Minimum grade of C- in CTRP 8655 (may be taken concurrently)

**CTRP 8755. Introduction to Emergency Management Planning. 3 Credit Hours.**

This course provides a fundamental understanding of the emergency planning process, the phases of emergency management, and the roles and responsibilities of all parties involved. Students work in a classroom environment, interacting with others on various assignments, projects, and presentations.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8756. After the Disaster: Effective Planning for Continuity, Recovery and Restoration. 3 Credit Hours.**

Provides the student with the skills necessary to develop a plan for continuing operation during and immediately following a disaster or emergency situation. Addresses the planning necessary to quickly recover and eventually restore operations to a normal status. Using various disaster and emergency scenarios, the concepts of command and control, communications protocols and decision making will be applied to the process of continuing and suspending operations. Assessment techniques, table top exercises, and guest lecturers will provide the student with hands-on experience in disaster recovery.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Course Attributes:** SF

**Repeatability:** This course may not be repeated for additional credits.

**CTRP 8840. Topics in Community and Regional Planning. 1 to 3 Credit Hour.**

Variable offerings are made from semester to semester on selected topics not part of the regular listing of courses. The topic can be in an area of specialization of a faculty member or an examination of a current development in the field. Note: A description of the current course offering can be obtained at the department office and in the schedule of classes. This course may be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**CTRP 8850. Topics in Community and Regional Planning. 3 Credit Hours.**

Variable offerings are made from semester to semester on selected topics not part of the regular listing of courses. The topic can be in an area of specialization of a faculty member or an examination of a current topic in the field of planning. Note: A description of the current course offering can be obtained at the department office and in the schedule of classes. This course may be repeated for credit. Past courses include Suburbia: Issues and Trends; Redevelopment and Revitalization; Environmentally Sensitive Development; Issues in Local and Regional Economic Development; Community-Based Organizations and Planning; Emergency Management Planning; Urban and Regional Development; Community-Based Organizations and Planning; and Planning Processes and Project Management.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**CTRP 8860. Topics in Community and Regional Planning. 1 to 3 Credit Hour.**

Variable offerings are made from semester to semester on selected topics not part of the regular listing of courses. The topic can be in an area of specialization of a faculty member or an examination of a current development in the field. Note: A description of the current course offering can be obtained at the department office and in the schedule of classes. This course may be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**CTRP 8870. Special Topics. 1 to 3 Credit Hour.**

Variable offerings are made from semester to semester on selected topics not part of the regular listing of courses. The topic can be in an area of specialization of a faculty member or an examination of a current development in the field. Note: A description of the current course offering can be obtained at the department office and in the schedule of classes. This course may be repeated for credit.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**CTRP 8889. Planning Studio I. 3 Credit Hours.**

The studio involves undertaking a planning project in cooperation with a local or regional client. Working in small groups, students synthesize the knowledge gained from previous courses in the development of an integrated approach that is appropriate to their project. The groups prepare professional-level plans and policy reports based on relevant data collection; site analysis; evaluation of location, market, transportation, environmental, financial, and schedule opportunities and constraints; and the assessment of stakeholder interests.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:** Minimum grade of C- in (CTRP 5524 or CRP 5524), (CTRP 5513, CRP 5513, or CRP 8513), and (12 credits in CTRP courses numbered 5000 to 8888 or 12 credits in CRP courses numbered 5000 to 8888)

**CTRP 9883. Directed Reading/Study. 1 to 3 Credit Hour.**

Advanced reading/study tutorial is arranged between the student and a faculty member.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**CTRP 9885. Internship in Planning. 3 or 6 Credit Hours.**

All students in the Master of Science in City and Regional Planning are required to fulfill 180 hours of work experience in the field of planning as an extracurricular activity or as a three-credit elective by registering for CTRP 9885 Internship in Planning. Approved internships must focus on the acquisition and application of practical skills in planning. Internship placements are at public agencies, non-profit institutions, and private firms. Internships must be approved by the City and Regional Planning program head prior to a start date. Internships require interim reports and must culminate in a report regarding the experience.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Pre-requisites:** Minimum grade of C- in (24 credits in CTRP courses numbered 5000 to 9000 or 24 credits in CRP courses numbered 5000 to 9000)

**CTRP 9889. Planning Studio. 6 Credit Hours.**

The studio involves undertaking a planning project in cooperation with a local or regional client. Working in small groups, students synthesize the knowledge gained from previous courses in the development of an integrated approach that is appropriate to their project. The groups prepare professional-level plans and policy reports based on relevant data collection; site analysis; evaluation of location, market, transportation, environmental, financial, and schedule opportunities and constraints; and the assessment of stakeholder interests.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Pre-requisites:** Minimum grade of C- in (CTRP 5014, CRP 5014, or CRP 8014), (CTRP 5413, CRP 5413, or CRP 8413), (CTRP 5513, CRP 5513, or CRP 8513), CTRP 8013, CTRP 8016, and CTRP 8213.

**CTRP 9995. Thesis in Planning. 1 to 6 Credit Hour.**

Undertaking a master's thesis provides the student an opportunity to develop evidence of mastery of the field. Under the guidance and supervision of the course instructor and Thesis Committee, the student will develop an appropriate research question, methodology and process. The master's thesis is substantial in length and follows a knowledge-enhancement model, based on planning theory, methodology, or history. The thesis is subject to a public defense. Note: Open only to students matriculated in the MS in City and Regional Planning program who have completed the first full year equivalent of the master's program. Registration requires approval of the department chair. Students may register for one to six credits of CTRP 9995. This course may be repeated for credit, but no more than six credits of CTRP 9995 may be used as an elective for the MS in CTRP.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Pre-requisites:** Minimum grade of C- in (18 credits in CTRP courses numbered 5000 to 9999 or 18 credits in CRP courses numbered 5000 to 9999)