

# Public Administration (PA)

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## Courses

### **PA 401. Foundations of Public Service. 3 or 4 hours.**

Examines political, legal, economic and social environment of public service, internal dynamics of public organizations, relationship between public organizations and external stakeholders, and ethical and moral challenges. Course Information: 3 undergraduate hours. 4 graduate hours. Previously listed as PA 400. Prerequisite(s): Admission to the MPA program or consent of the instructor.

### **PA 402. Principles of Data Analysis. 0-4 hours.**

Topics and methods of analyzing information relevant to the administration and management of public programs and organizations. Includes causation, univariate statistics, significance testing, correlation, and regression. Course Information: 3 undergraduate hours; 4 graduate hours. Previously listed as PA 407.

### **PA 403. Economics for Management and Policy. 3 or 4 hours.**

Basic economic tools and methods relevant to public admin and current policy: opportunity cost, supply and demand, rational choice, production costs, competition vs monopoly, and economic efficiency versus equity, market failure, and public goods. Course Information: 3 undergraduate hours. 4 graduate hours. Previously listed as PA 410. Prerequisite(s): Appropriate score on the department placement test and graduate standing and admission to the MPA program; or consent of the instructor.

### **PA 412. Addressing Public Problems with Data. 3 or 4 hours.**

Intended to explore best practices for utilizing data and innovative approaches to application development while ensuring commitment to the public values of access, equity, and sustainability. Course Information: 3 undergraduate hours; 4 graduate hours.

### **PA 421. Public Management. 3 or 4 hours.**

Theories, concepts, and applications of management in public organizations. Topics include bureaucracy, public versus private organizations, leadership, motivation, and managing organization change, discretion, and networks. Course Information: Previously listed as PA 415. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Admission to the MPA program or consent of the instructor.

### **PA 422. Project Management. 4 hours.**

A comprehensive review of project management practices and techniques necessary to successfully manage projects in government and non-profit organizations which is rooted largely in Project Management Institute (PMI) standards and practices. Course Information: Previously listed as PA 462.

### **PA 431. Civic Technology. 3 or 4 hours.**

Application of the Internet and related technologies for public management. Topics include, Web-based service delivery, online governance, the technological divide, the use of social media, and the changing role of public managers. Course Information: 3 undergraduate hours. 4 graduate hours. Previously listed as PA 463.

### **PA 432. Management of Information Technology. 3 or 4 hours.**

The management of technology in government and nonprofit organizations, including typical organizational models; technology roles, skills, and leadership; integration of technology with business operations; and common technology challenges. Course Information: 3 undergraduate hours. 4 graduate hours. Previously listed as PA 461. Prerequisite(s): Graduate or professional standing; or Admission to the MPA program or consent of the instructor.

### **PA 433. Data Management. 3 or 4 hours.**

An overview of the use and leveraging of data in order to allow government and nonprofit organizations to make better decisions and improve operations. Topics to be covered will include the concepts of data management and governance. Course Information: 3 undergraduate hours. 4 graduate hours. Previously listed as PA 460. Prerequisite(s): Graduate or professional standing; or admission to the MPA program or consent of the instructor.

### **PA 434. Data Analytics. 3 or 4 hours.**

An introduction to data analytics concepts, including the latest practices for gaining better value from data. An emphasis will be placed upon hands-on use and application of data analytics techniques. Course Information: 3 undergraduate hours. 4 graduate hours. Extensive computer use required. Meets eight weeks of the semester.

### **PA 435. Geographic Information Systems (GIS) for Public Managers. 4 hours.**

Fundamental GIS tools and applications as well as the challenges in implementing and sustaining a GIS function in the public setting.

### **PA 446. Coding for Civic Data Applications. 3 or 4 hours.**

Designed to provide students with the advanced technical skills for coding, transforming, and displaying data within existing commercial platforms. Emphasis is placed on the use of and R and Python, SQL, data scraping, mining, etc. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): PA 402 or PA 434; or consent of the instructor. Recommended background: Familiarity with coding environments and programming. To be properly registered, students must enroll in one Lecture and one Laboratory.

### **PA 447. Survey Planning and Design. 3 hours.**

Theory and applications of sample survey planning and design for conducting research in health sciences and related fields. Addresses three major topics: survey design and planning, sampling, and data collection procedures. Course Information: Same as CHSC 447. Prerequisite(s): Graduate or professional standing and BSTT 400 and CHSC 446; or approval of the department. Recommended background: Credit in CHSC 446 or the equivalent.

### **PA 452. The UIC Freshwater Lab Course. 3 or 4 hours.**

Brings a Humanities lens to the Great Lakes watershed to examine how water interacts with socio-political systems, legal structures, cultural perceptions, and artistic visions. Course Information: Same as ENGL 452 and UPP 452. 3 undergraduate hours. 4 graduate hours. Prerequisite(s): ENGL 160 and ENGL 161.

**PA 453. Freshwater Lab in Practice: Environmental Research, Projects, and Internships. 3 or 4 hours.**

Investigates key issues surrounding Great Lakes water governance through a combination of hands-on research and professional development in fields related to environmental policy, planning, writing and communication. Course Information: Same as ENGL 453 and UPP 453. 3 undergraduate hours; 4 graduate hours. This course offers an internship placement opportunity. Depending on placement/start date, students may begin internship work during the second half of the semester or during the summer. Prerequisite(s): ENGL 160 and ENGL 161.

**PA 464. Technology and Innovation Theory. 4 hours.**

The course focuses on theories surrounding the creation, development, transfer, and use of technology. Course Information: Prerequisite(s): Admission to the Ph.D. in Public Administration program or consent of the instructor.

**PA 466. Science, Technology and Public Policy. 4 hours.**

This course addresses the relationships between public policy and science and technology in the United States. Course Information: Prerequisite(s): Admission to the Ph.D. in Public Administration program or consent of the instructor.

**PA 467. Civic Engagement. 3 or 4 hours.**

Analytic frameworks and practical strategies for utilizing public participation in government and community decisions. Investigates interactions between civic participation, efforts to improve administration of programs and develop new public policies. Course Information: Same as PPOL 467. 3 undergraduate hours; 4 graduate hours. Previously listed as PA 564. Prerequisite(s): Admission to the MPA program or consent of instructor.

**PA 468. Topics in Management and Leadership of Public Organizations. 3 or 4 hours.**

Examines management and leadership issues through experiences of current and former public managers, political appointees, elected officials, and other key public leaders. Emphasis on topics from Illinois and Chicago metropolitan region. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Admission to the MPA program or consent of instructor .

**PA 470. AI & Machine Learning. 3 or 4 hours.**

Introduces students to public sector applications of artificial intelligence and machine learning. It begins with the philosophical foundations of artificial intelligence before introducing students to major frameworks for learning. Course Information: 3 undergraduate hours. 4 graduate hours. Prerequisite(s): Admission to the Master of Public Administration program or consent of the instructor.

**PA 490. Field Experience in Public Policy and Administration. 4 hours.**

Students work in an organization such as a government agency, community group, or nonprofit organization. Students are required to submit written work and meet with professor on periodic basis to review work experience. Course Information: Same as PPOL 490. Satisfactory/Unsatisfactory grading only. May be repeated. A maximum of 4 hours of credit may be applied to the Master of Public Administration program. Field work required. Students who have no prior work experience in the public or non-profit sectors are strongly recommended to register for this course. Prerequisite(s): Graduate standing required; and admission to the MPA program or consent of the instructor.

**PA 494. Special Topics in Public Administration. 3 or 4 hours.**

Consideration of timely or enduring issues in public administration not available in regularly offered courses. Course Information: 3 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 12 hours. Students may register in more than one section per term. Prerequisite(s): Admission to the MPA program or consent of the instructor.

**PA 504. Principles of Financial Management and Budgeting. 4 hours.**

Processes and methods relevant to government finances and fiscal health: revenues, taxation, budget formulation, operating budgets, cost analysis, planning and performance, budget reforms, politics, capital budgeting, role of budgeting in management. Course Information: Prerequisite(s): Admission to the MPA Program or consent of the instructor.

**PA 505. Public Management Practices. 4 hours.**

Current issues and challenges in public management as embedded in the disciplines of organization theory, economics, psychology, ethics, and law. Course Information: Prerequisite(s): Admission to the MPA program or consent of instructor; Must be taken within first 3 semesters in program .

**PA 506. Public Policy Development and Process. 4 hours.**

Examines the process by which public policies are formulated, decided on, implemented, and evaluated. Students learn techniques to appropriately structure, analyze, and communicate policy issues, as well as the economic rationale for public policy. Course Information: Prerequisite(s): Grade of C or better in PA 402; and PA 403 and admission to the MPA Program or consent of the instructor.

**PA 510. Organization Theory and Behavior in Public Administration Research. 2 hours.**

Students will be introduced to important organization theory frameworks including organizations as rational systems, open systems theory, resource dependent theory, and institutional theory. Topics to be covered include organization. Course Information: Prerequisite(s): Admission to the Ph.D. in Public Administration program or approval of the program director.

**PA 511. History and Development of Public Administration. 2 hours.**

Students will be introduced to the history of public administration as an academic discipline in the U.S. Students will learn about key issues and controversies that have served as a focus of scholars in the field. Course Information: Prerequisite(s): Admission to the Ph.D in Public Administration program or approval of the program director.

**PA 513. Collaborative Management and Governance Networks. 2 hours.**

Analyzes public administration and policy through a collaborative governance lens and explore the types of network structures that exist among public and private organizations. Course Information: Prerequisite(s): Graduate standing; and admission to the Ph.D Program in Public Administration or approval of the Program Director.

**PA 515. Bureaucracy and the Policy Process. 2 hours.**

Introduction to a number of the frameworks that have been put forth for the purpose of understanding the policy process. Topics include the concept of policy subsystems, policy learning, implementation, policy analysis and evaluation. Course Information: Prerequisite(s): Admission to the Ph.D. in Public Administration program or approval of the program director.

**PA 520. Data Ethics and Information Security. 2 hours.**

Provides a review of the ethical considerations that arise from the use of data science and technology in the public sector, including location-based services and spatial intelligence. Course Information: Prerequisite(s): Admission to the Master of Science in Civic Analytics program, or consent of instructor.

**PA 521. Strategic Management: Planning and Measurement. 4 hours.**

This course addresses strategies and issues relating to the strategic management of public and quasi-public organizations. It addresses strategic planning and performance measurement processes within organizations. Course Information: Prerequisite(s): Admission to the MPA program or consent of the instructor.

**PA 522. Ethics and Accountability. 2 hours.**

Better government through institutionalizing ethics and accountability. Effectiveness of boards of ethics, Inspector General, codes of ethics, and educational programs. History of ethics within the Western intellectual tradition. Course Information: Prerequisite(s): Admission to the MPA program or consent of the instructor.

**PA 524. Leadership in Public Organizations. 2 hours.**

Examines theories and practices of leadership in public sector organizations. Global, political, social, and organizational contexts of public sector leaders and interface between administrators, appointees, elected officials. Course Information: Prerequisite(s): Admission to the MPA program or consent of the instructor.

**PA 525. The Legal Context of Public Administration. 2 hours.**

Legal basis and statutory framework for administrative agencies and actions in government. Relationship between courts and public agencies, rulemaking and adjudicative powers of public agencies, and impact of specific laws on government. Course Information: Previously listed as PA 502. Prerequisite(s): Admission to the MPA program or consent of the instructor.

**PA 526. Public Policy Analysis. 4 hours.**

Foundations, theories, practices and methods of policy analysis and regulation. Topics covered include cost benefit analysis, decision analysis, multi-objective programming and risk analysis. Course Information: Prerequisite(s): PA 402; and PA 403; or consent of the instructor.

**PA 527. Public Management Theory. 4 hours.**

Addresses the development of the public management subfield within the field of public administration. It covers the development of public management theory from its early stages to current questions and theoretical approaches. Course Information: Prerequisite(s): Admission to the Ph.D. in Public Administration program or consent of the instructor.

**PA 528. Public Program Evaluation. 4 hours.**

Theory and procedures for evaluating the effectiveness of programs administered by public and non-profit organizations. Includes application of research design, quantitative, and qualitative methodologies. Course Information: Prerequisite(s): PA 402. Recommended background: PA 541.

**PA 529. Change and Reform in Public Organizations. 2 hours.**

Examines how large, bureaucratic organizations change how they do business. Can improved efficiency and effectiveness result from such change? What techniques are being applied by public organizations to achieve such change? Course Information: Prerequisite(s): Admission to the MPA program or consent of the instructor.

**PA 531. Human Resource Management in the Public and Nonprofit Sectors. 2 hours.**

History and current innovations in managing personnel and other areas of human resources. Compensation, classification, affirmative action, performance appraisal, labor relations, and unions. Statutory, court decisions affecting gvt personnel issues.

**PA 532. Labor Management Relations in the Public Sector. 4 hours.**

Skills and knowledge to manage labor relations in government. Constitutional influences on public employment, rights of public employees, mgmt and labor unions; civil service laws, collective bargaining, non-discrimination, and equal opportunity. Course Information: Prerequisite(s): PA 503; and admission to the MPA program or consent of the instructor.

**PA 533. Managing Workplace Diversity. 2 hours.**

Examines discrimination and diversity in public sector workplaces along several dimensions including race, ethnicity, sex, age, sexual preference, and physical ability. Course Information: Prerequisite(s): PA 503; and admission to the MPA program or consent of the instructor.

**PA 534. Human Resource Development and Management in Public Administration. 4 hours.**

Topics in public personnel administration; work motivation, performance appraisal, high performance work systems, equal employment opportunity, affirmative action, strategic human resource management and representative bureaucracy. Course Information: Prerequisite(s): Admission to a Ph.D. program or consent of the instructor.

**PA 535. Conflict Management. 4 hours.**

Students learn the skills of interest-based negotiation through readings as well as role playing and simulation. Topics covered include resolution techniques, mediation, arbitration, fact finding, early neutral evaluation and facilitation. Course Information: Prerequisite(s): Admission to the MPA program or consent of instructor.

**PA 539. Public Procurement and Contracting. 2 hours.**

Public procurement practices and theory, including the history of public procurement and purchasing, objectives, ethical issues, forms of procurement including no-bid contracts, social requirements, requests for proposal and qualifications, etc. Course Information: Meets eight weeks of the semester. Prerequisite(s): Admission to the MPA program or consent of instructor.

**PA 540. Research Design for Public Administration. 4 hours.**

Logic and methods of quantitative and non-quantitative research in public administration. Issues in measurement; causal inference; experimental and quasi-experimental designs; and methods of data collection. Course Information: Prerequisite(s): Admission to the Ph.D. in Public Administration program or approval of the program director.

**PA 541. Advanced Data Analysis I. 4 hours.**

Introduction to modern econometric and statistical techniques. Topics include standard OLS regression, regression with qualitative predictors, mediation and moderation, model specification, data issues, limited dependent variable models, data methods. Course Information: Prerequisite(s): PA 402.

**PA 542. Advanced Data Analysis II. 4 hours.**

Builds on material covered in PA 541 and covers more advanced analytical techniques using social science data including count regression models, regression discontinuity designs, instrumental variables, panel data methods, multilevel models. Course Information: Prerequisite(s): Graduate standing; and PA 541 or equivalent or approval of the instructor.

**PA 543. Social Network Analysis. 4 hours.**

Covers network data collection, research design, visualization, and inferential techniques for cross-sectional and longitudinal network data. Prerequisite(s): PA 402 Graduate standing; and admission to the MPA or Ph.D. Programs in Public Administration or approval of the instructor. Recommended Background: Students should have a prior stats course and be comfortable with regression and logistic regression.

**PA 544. Qualitative Research Methods in Public Administration. 4 hours.**

Overview of fundamental elements of rigorous research design and application of inductive, qualitative methods. Includes basic practices and tenets in conceptualizing a qualitative research question, designing protocols for qualitative data collection Course Information: Prerequisite(s): Graduate or professional standing; PA 540 or equivalent; or consent of the instructor.

**PA 545. Research Topics in Public Administration I. 2 hours.**

Provides Ph.D. students with a better understanding of current research topics in PA. Students will read current working papers and published articles so as to develop the tools needed for critical analysis of current research. Course Information: Satisfactory/Unsatisfactory grading only. Prerequisite(s): Admission to the Ph.D. program in Public Administration and advanced standing or consent of the instructor.

**PA 546. Research Topics in Public Administration II. 2 hours.**

Continuation of PA 545. Students critically analyze current research and will develop a research topic of their own focusing on the elements needed to write a quality research paper. Course Information: Satisfactory/Unsatisfactory grading only. Prerequisite(s): PA 545; and admission to the PhD program in Public Administration with advanced standing or consent of the instructor.

**PA 550. Advanced Topics in Financial Analysis and Management. 4 hours.**

Advanced topics in financial analysis and management in government and nonprofit organizations, including cost analysis, revenue structures, fiscal health/distress, financial risk, management of short-term resources, and internal controls. Course Information: Prerequisite(s): PA 504; and admission to the MPA program or consent of the instructor.

**PA 551. Accounting for Public and Nonprofit Organizations. 4 hours.**

Introduction to major concepts, principles, and objectives of governmental accounting (including fund accounting) and budgetary control systems for local and state government. Designed for students with little or no background in accounting. Course Information: Prerequisite(s): PA 504; and admission to the MPA program or consent of the instructor.

**PA 552. Capital Budgeting and Finance. 4 hours.**

Examines governmental capital budgeting processes, linkages between the capital budget and capital improvement plan, and methods and techniques of financing capital projects including debt financing. Course Information: Prerequisite(s): PA 504; and admission to the MPA program or consent of the instructor.

**PA 553. State and Local Public Finance. 4 hours.**

Analyzes expenditures and revenues of state and local govts and public sector responses to market failures. Examines state and local revenue sources and discusses governmental provision of services. Course Information: Prerequisite(s): PA 504; and admission in the MPA program or consent of the instructor.

**PA 554. Financial Management in Public Administration. 4 hours.**

Covers early and current research and theoretical approaches from public finance (primarily state and local), public financial management, and financial governing and policy making that is applicable to the field of public administration. Course Information: Prerequisite(s): Admission to the Public Administration program.

**PA 555. Advanced Topics in Public Budgeting. 4 hours.**

A project based course focusing on advanced topics in public budgeting, including revenue forecasting, resource allocation, budgeting theories and reform of the budget process. Project work for hands-on experience in public/nonprofit budgeting. Course Information: Extensive computer use required. Prerequisite(s): PA 504 and admission to the MPA program or consent of instructor.

**PA 561. Intergovernmental Management. 4 hours.**

Constitutional, political, fiscal relationships among federal, state and local governments; management of public policy problems requiring cross-boundary solutions and overlapping programmatic, regulatory and fiscal responsibilities. Course Information: Previously listed as PA 523. Prerequisite(s): Admission to the MPA program or consent of the instructor.

**PA 562. Seminar on Urban Governance. 4 hours.**

Examines research on processes public and private interests use to manage, finance, and plan urban regions. Course Information: Prerequisite(s): Admission to the Ph.D Program in Public Administration or approval of the program director.

**PA 563. Local Government Management. 4 hours.**

Operations of local governments, including council-management relations; budget and finance, service delivery, infrastructure, economic development, and public engagement. Course Information: Previously listed as PA 537. Prerequisite(s): Admission to the MPA Program or consent of the instructor.

**PA 565. Principles of Urban Development. 4 hours.**

History, theories and principles of urban development, including the development of cities, city size, land markets, density, transportation, housing, crime, education and health. Prerequisite(s): Admission to the MPA program or consent of the instructor.

**PA 567. Topics in Political Communication. 4 hours.**

Intensive study of selected aspects; organizational communication in public institutions, urban political communication patterns, communication elites. Independent research using a variety of community research techniques. Course Information: Same as COMM 567 and POLS 567. Prerequisite(s): Consent of the instructor.

**PA 571. Nonprofit Management. 4 hours.**

Topics include governance roles and responsibilities, ethics, accountability, liability and risk management, resource generation, managing staff and volunteers, marketing and public relations, performance measurement/program evaluation and advocacy. Course Information: Previously listed as PA 538. Prerequisite(s): Admission to the MPA Program or consent of the instructor.

**PA 572. Nonprofit History and Theory of the Nonprofit Sector. 4 hours.**

Overview of U.S. nonprofit sector, highlighting the unique and distinct roles nonprofits perform in our society. Examines the history and evolution of the U.S. nonprofit sector, scope and functions of tax-exempt organizations, various theories, etc. Course Information: Previously listed as PA 530.

**PA 573. Development and Fundraising in Nonprofit Organizations. 2 hours.**

Sources of financial support for nonprofit organizations, importance of building a diversified funding plan, techniques for developing comprehensive fundraising plans, conducting prospect research and cultivation, leading campaigns for various types. Course Information: Previously listed as PA 536. Prerequisite(s): PA 504 and PA 538; or consent of the instructor.

**PA 577. Survey Questionnaire Design. 3 hours.**

Concepts and strategies for developing survey questionnaires for various modes of survey data collection. Course Information: Same as CHSC 577. Prerequisite(s): CHSC 421 and credit or concurrent registration in CHSC 422; and graduate or professional standing; or approval of the department.

**PA 578. Surveys, Public Opinion, and Public Policy. 4 hours.**

Addresses the nature of the relationship between public policy and public opinion and the role that surveys play in that relationship. Course Information: Prerequisite(s): Admission to the MPA or Ph.D. in Public Administration program or consent of the instructor.

**PA 579. Practicum in Survey Methodology. 2-6 hours.**

Students learn about survey research by participating in the process of conducting a survey or surveys. Course Information: Prerequisite(s): Admission to the MPA or Ph.D. in Public Administration program or consent of the instructor.

**PA 582. Survey Data Collection Methods: Theory and Practice. 4 hours.**

This course will address the impact of data collection methods on survey responses and data quality. Course Information: Prerequisite(s): Graduate or professional standing or consent of the instructor.

**PA 587. Seminar on Special Topics in Survey Methodology. 2 hours.**

This seminar is for special topics in survey methodology not covered in the other elective courses. Course Information: Prerequisite(s): Admission to the MPA or Ph.D. in Public Administration program or consent of the instructor.

**PA 588. Applied Survey Sampling and Analysis. 4 hours.**

Provides an in-depth overview of available procedures and standards for survey data reduction and data analysis activities. Course Information: Prerequisite(s): Admission to the MPA or Ph.D. in Public Administration program or consent of the instructor.

**PA 589. Civic Analytics Capstone. 2 hours.**

Preparation of a student portfolio based on work completed in other courses to demonstrate competencies gained in the department's graduate programs. The portfolio will contain a reflective essay on the role of the program and student's needs. Course Information: Prerequisite(s): Completion of at least 3 semesters of FTE coursework. Admission to the Master of Science in Civic Analytics program.

**PA 590. Public Administration Capstone. 4 hours.**

Integration of classroom learning with practical experience. Students will work in groups to solve real problems for public and non-profit organizations. Course Information: Extensive collaboration required among group members outside of class time. Students should expect significant field work at their assigned organizations. Students are responsible to the course professor and to the project supervisor in their assigned organizations. Because the coursework is team-based, students are not allowed to drop this course once teams are created. Prerequisite(s): Consent of the instructor and enrollment in the MPA program. Course must be taken in the last two semesters in the MPA program or consent of the instructor.

**PA 591. Managing Your Career. 1 hour.**

Preparation of a personalized strategy to optimize MPA program outcomes. Course Information: Satisfactory/Unsatisfactory grading only. Prerequisite(s): Enrollment in the MPA program. Must be taken the first semester in the MPA program.

**PA 592. Professional Portfolio. 1 hour.**

Preparation of a student portfolio based on work completed in other courses to demonstrate competencies gained in MPA program. The portfolio will contain a reflective essay on the role of the program in meeting the student's individual profession. Course Information: Satisfactory/Unsatisfactory grading only. Prerequisite(s): Enrollment in the MPA program; Must be taken in the last semester in the MPA program.

**PA 593. Independent Research in Public Administration. 1-8 hours.**

Advanced study and analysis of a topic selected by a student under the supervision of a faculty member. Course Information: Satisfactory/Unsatisfactory grading only. May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the director of graduate studies and consent of the instructor.

**PA 594. Special Topics in Public Administration. 1-4 hours.**

Advanced study of an announced topic. Course Information: May be repeated. Students may register in more than one section per term. Prerequisite(s): Admission to the Ph.D. in Public Administration program or consent of the instructor.

**PA 595. Internship in Civic Data and Technology. 2 hours.**

This project-based course is the culminating experience for students in the Master of Science in Civic Analytics program. Students work with government and non-profit organizations to solve public problems using principles of data science.

**PA 596. Independent Study in Public Administration. 1-4 hours.**

Advanced study and analysis of a topic under guidance of select faculty. Course Information: May be repeated. Students may register in more than one section per term. Prerequisite(s): Approval of the director of graduate studies and consent of the instructor.

**PA 599. Ph.D. Thesis Research. 0-16 hours.**

Individual study and research. Course Information: Satisfactory/Unsatisfactory grading only. May be repeated. Prerequisite(s): Open only to degree candidates, upon approval of topic by dissertation committee.