Through its Trachtenberg School of Public Policy and Public Administration, Columbian College of Arts and Sciences offers master of public policy, master of public administration, and doctor of philosophy in the field of public policy and administration degree programs. The master’s programs provide academic preparation toward professional careers in government, business, and the nonprofit sector. The PhD program is designed to help students master subjects in multiple academic disciplines, including politics, economics, and quantitative and qualitative methods in policy research. In addition, a graduate certificate in nonprofit management provides an overview of central concepts in managing nonprofit organizations.

The Environmental Resource Policy (ENRP) program within the Trachtenberg School of Public Policy and Public Administration offers a multidisciplinary approach to environmental and sustainability studies. The master of arts degree prepares students to enter environmental policy careers in government, nonprofit organizations, the private sector, and environmental advocacy. In addition to the MA degree program, ENRP offers two graduate certificate programs. The graduate certificate in environmental resource policy provides an alternative to the MA for working professionals who may not have the need for or the time to commit to the full master’s; however, once completed, the credits earned toward the certificate may be applied to the master’s degree requirements. The graduate certificate in the contexts of environmental policy is designed to help support the professional development of current and future leaders of the National Park Service who are responsible for the preservation and protection of public lands and cultural heritage.

**GRADUATE**

**Master's programs**
- Master of arts in the field of environmental resource policy (http://bulletin.gwu.edu/arts-sciences/public-policy-administration/enrp-ma)
- Master of public policy (http://bulletin.gwu.edu/arts-sciences/public-policy-administration/mpp)
- Master of public administration (http://bulletin.gwu.edu/arts-sciences/public-policy-administration/mpa)

**Combined programs**
- Master of arts in the field of environmental resource policy and graduate certificate in geographical information systems (http://bulletin.gwu.edu/arts-sciences/public-policy-administration/enrp-ma-gc-gis)
- Master of public administration and graduate certificate in homeland security emergency preparedness and response (http://bulletin.gwu.edu/arts-sciences/public-policy-administration/mpa-homeland-security-emergency-preparedness-and-response)

**Doctoral program**
- Doctor of Philosophy in the field of public policy and administration (http://bulletin.gwu.edu/arts-sciences/public-policy-administration/phd)

**CERTIFICATE**
- Graduate certificate in budget and public finance (http://bulletin.gwu.edu/arts-sciences/public-policy-administration/certificate-budget-public-finance)
- Graduate certificate in contexts of environmental policy (http://bulletin.gwu.edu/arts-sciences/public-policy-administration/certificate-contexts-environmental-policy)
- Graduate certificate in environmental resource policy (http://bulletin.gwu.edu/arts-sciences/public-policy-administration/certificate-environmental-resource-policy)
- Graduate certificate in nonprofit management (http://bulletin.gwu.edu/arts-sciences/public-policy-administration/certificate-nonprofit-management)

**FACULTY**

**University Professor** S.J. Trachtenberg


**Associate Professors** S.J. Balla, L.A. Brainard, S. Cellini, D. Conger, C. Deitch, E.J. Englander, J.F. Kasle, P. Linquiti, A.S. Malik, Y. Nakib

**Assistant Professors** L. Brooks, C.M. Carrigan, J. McGinnis

**Adjunct Professors** N. Augustine, J. Dudik-Gayoso

**COURSES**

**Explanation of Course Numbers**
- Courses in the 1000s are primarily introductory undergraduate courses
- Those in the 2000–4000s are upper-division undergraduate courses that can also be taken for graduate credit with permission and additional work
- Those in the 6000s and 8000s are for master’s, doctoral, and professional-level students
- The 6000s are open to advanced undergraduate students with approval of the instructor and the dean or advising office

Programs in Public Administration are offered at the graduate level by the Trachtenberg School of Public Policy and Public
Public Policy and Public Administration.

Courses with 2000 designations are open to undergraduates.

**PPPA 1000. Dean's Seminar. 3 Credits.**
The Dean's Seminars provide Columbian College first-year students focused scholarship on specific intellectual challenges. Topics vary by semester. Consult the Schedule of Classes for more details. Restricted to First-year students in CCAS.

**PPPA 2000. Justice and the Legal System I. 3 Credits.**
The structure and function of constitutional law: the Supreme Court as an institution, how its cases are decided, and effects of its decisions on the political and social life of the country.

**PPPA 2001. Justice and the Legal System II. 3 Credits.**
Continuation of PPPA 2000. The structure and function of constitutional law: the Supreme Court as an institution, how its cases are decided, and effects of its decisions on the political and social life of the country. PPPA 2000 is prerequisite to PPPA 2001, which focuses on the First Amendment.

**PPPA 2117. Executive Branch Politics. 3 Credits.**
Contemporary concepts and issues in public administration and management. Major trends and approaches to governmental administration in the U.S., including the changing federal role, roles of the public sector in relation to the private sector, and managing public agencies at all levels. Same as PSC 2217.

**PPPA 2701. Sustainability and Environmental Policy. 3 Credits.**
A survey of the intersection of the principles of sustainability and the set of public policies that affect environmental management in the United States. Consideration of the idea that environmental policy is inevitably implemented in a complex interaction of both natural and human systems. Topics applicable to most environmental policy debates, such as the balance between costs and benefits of environmental protection. Introduction to a “toolkit” of environmental policy instruments ranging from highly prescriptive command-and-control regulations to flexible market-based policies.

**PPPA 6000. Cross-Sectoral Governance in the U.S. Federal System. 1 Credit.**
Introduction to the roles and responsibilities of the public, nonprofit, and for-profit sectors in the delivery of public goods and services.

**PPPA 6001. Introduction to Public Service and Administration. 3 Credits.**
Introduction to the discipline of public administration. The intellectual traditions and theoretical frames of reference that inform public administration as a field of professional practice and study. Current and continuing challenges and controversies.

**PPPA 6002. Research Methods and Applied Statistics. 0-3 Credits.**
Development of skills and knowledge for conducting original research and critically evaluating empirical studies. Various research designs and data collection techniques are examined. Focus on computerizing data sets for quantitative analysis, analyzing strength of relationships, selecting appropriate statistical techniques, and testing statistical hypotheses.

**PPPA 6003. Economics for Public Decision Making. 3 Credits.**
The basic tools and concepts in microeconomic analysis; how these tools can be useful in public decision making.

**PPPA 6004. Managing Public Organizations. 3 Credits.**
Organizational dynamics, management approaches, and workplace relationships that affect behavior in public organizations. Prerequisite: PPPA 6001.

**PPPA 6005. Public Budgeting, Revenue, and Expenditure Analysis. 3 Credits.**
Survey course that focuses on the institutions and analytical tools associated with raising revenue and allocating/managing resources at all levels of government. Hands-on budgeting skills and communication of analysis to decision makers. Prerequisite: PPPA 6003.

**PPPA 6006. Policy Analysis. 3 Credits.**
Development of skills in conducting and critiquing policy analyses. Application of methodologies used in analyzing possible consequences of specified alternatives as applied in the public policy decision-making process. Appropriate applications and limitations of policy analysis and its relationship to politics and the policy process.

**PPPA 6007. Microeconomics for Public Policy I. 3 Credits.**
Intermediate microeconomics with a focus on policy-related topics and examples. Restricted to MPA and MPP students.

**PPPA 6008. M.P.A./M.P.P. Capstone. 3 Credits.**
For M.P.A. and M.P.P. students who will complete their degree program at the end of the fall semester, this course substitutes for PPPA 6009 and 6119, respectively.

**PPPA 6009. MPA Capstone. 3 Credits.**
Review of concepts and issues; analysis and integration of ethical, political, economic, managerial, and personal values and issues in the field.

**PPPA 6010. Politics & The Policy Process. 3 Credits.**
The role of policy analysts in public policymaking. The impact that the political, economic, cultural, and bureaucratic context has on the policymaking process and outcomes. Political and ethical issues raised by the intricate interface of the private, not-for-profit, and public sectors in public policy formulation and implementation.

**PPPA 6011. Politics and Policy Analysis. 3 Credits.**
Foundations of the public policy field; the role of policy analysts in the policy making process; agenda setting, decision making, policy implementation, program evaluation, and policy feedback.
PPPA 6013. Econometrics for Policy Research I. 3 Credits.
Multivariate research methods in policy analysis Laboratory fee. Prerequisite: PPPA 6002.

PPPA 6014. Economics in Policy Analysis. 3 Credits.
The application of intermediate microeconomic theory to the study of public policy. Topics include models of individual choice in policy analysis, policy aspects of models of the firm, theory of market failure and welfare economics, and resource allocation decisions in the public sector. Credit cannot be earned for both PPPA 6014 and SMPP 6206. Prerequisites: PPPA 6085. Recommended background: An intermediate-level microeconomic theory course such as ECON 6217.

PPPA 6015. Benefit-Cost Analysis. 3 Credits.
The application of microeconomic theory and welfare economics to the empirical evaluation of public policies and programs. Applied welfare economics as a framework for policy analysis; empirical measures of welfare change; techniques of benefit-cost analysis. Prerequisite: PPPA 6014.

PPPA 6016. Public and Nonprofit Program Evaluation. 3 Credits.
Theory and practice of program evaluation and evaluative research. Exploration of scope and limitations of current practice in evaluation, considering economic, political, social, and administrative factors. Examination of methodological considerations for design, data collection, analysis, and dissemination. Prerequisite: PPPA 6002.

PPPA 6017. Introductory Microeconomics for Public Policy. 3 Credits.
Intermediate microeconomics with a focus on policy-relevant topics and examples. Restricted to MPA and MPP degree candidates.

PPPA 6018. Public Policy, Governance, and the Global Market. 3 Credits.
The socioeconomic foundations of government regulation and public policy cooperation for the governance of firms, markets, and globalization. The evolution of national, transatlantic, and multilateral frameworks for market and civil society governance, international competition policy cooperation, regulatory harmonization, and industry standards.

PPPA 6019. MPP Capstone. 3 Credits.
Policy theory and typologies; policy formulation, implementation, and evaluation; ethics and practice in policy analysis, processes, content, and contexts; policy linkages to multiple disciplines. Students submit an analysis of a substantive policy primarily utilizing resources in the D.C. region.

PPPA 6024. Leadership in Complex Organizations. 3 Credits.
What the manager must know and do to provide leadership and guidance in large, complex organizations. An exploration of leadership theories and the factors and processes that condition effective leadership.

PPPA 6025. Ethics and Public Values. 3 Credits.
Ethical dimensions of personal and professional judgments of public officials. Cases are used to consider the ethos of public organizations and the moral foundations of public policy.

PPPA 6027. Program Management. 1 Credit.
Program management as a basis for developing policy and evaluating programs; how managers look at problems, the competing demands they face, what (and who) influences their decisions and actions, and how they get things done.

PPPA 6031. Governing and Managing Nonprofit Organizations. 3 Credits.
Historical, legal, and social foundations of the nonprofit sector. Developing organizational strategy and capacity; managing staff, boards, and volunteers; financial management; fund raising, marketing, public advocacy, and other external relations; partnerships and entrepreneurial activities; measuring performance; and policy issues.

PPPA 6032. Managing Fund Raising and Philanthropy. 3 Credits.
Fund-raising for nonprofit organizations and the management of relationships between donors and recipient organizations. Positioning the organization for fund raising; roles of staff and volunteers; principal techniques for identifying, cultivating, and soliciting donors; ethical principles; emerging trends; and relevant policy issues.

PPPA 6033. Non-Profit Enterprise. 3 Credits.
The use of business methods by nonprofit organizations, commercialization in the nonprofit sector, and the relationship between nonprofit and for-profit entities in pursuing social purposes. Case studies.

PPPA 6034. Managing Nonprofit Boards. 3 Credits.
Overview of the responsibilities, roles, and management of nonprofit boards. The emphasis is on governing boards, but advisory councils and boards of other types are also considered.

PPPA 6042. Managing State and Local Governments. 3 Credits.
Examination of state and local governmental structures and functions, their place within the federal system, their revenue sources, their limitations, and the alternatives available to encourage more effective administration to meet public and private demands.

PPPA 6043. Land Use Planning and Community Development. 3 Credits.
Theory and practice of land use planning. Issues of competing land uses in an era of increased sprawl, population pressure, and environmental threat. Growth management techniques and practices in states and localities; the use of various regulatory controls and economic incentives to achieve desired outcomes. The idea of “sustainable community.”
PPPA 6044. State Politics and Policy. 3 Credits.
Important concepts of state politics and government with emphasis on how those concepts affect the formulation and implementation of policy. The functions of state government and the political, economic, and legal factors that shape state public policies.

PPPA 6048. Financing State and Local Government. 3 Credits.
Analysis of the theory and practice of public finance in state and local governments. Includes the financing of services through municipal taxation, intergovernmental funds, debt instruments, and other revenue sources. Review of expenditures as well as financial management practices.

PPPA 6049. Urban and Regional Policy Analysis. 3 Credits.
Examination of selected national policies and their effects on urban areas and governments. Emphasis on policy dimensions of urban systems and their relationship to the social, political, and economic context. Against the background of urban politics and administration, areas of health, education, welfare, manpower, transportation, and housing are addressed.

PPPA 6051. Governmental Budgeting. 3 Credits.
Survey of the acts, institutions, and processes in the federal budgeting system. Executive budget preparation/execution, legislative review and approval of budget requirements, and independent audit of government spending.

PPPA 6052. Tax Policy Analysis. 3 Credits.
This course provides a guided, critical study of budgeting by the U.S. Government: its conceptual foundations, structure, processes, accounting, scoring, and results. This process is evaluated, as a system and by its component elements, using the criteria of performance with respect to its fundamental objectives; fiscal and economic stability and efficiency, including for those programs aimed at promoting equity. Because of the dominant role of the Congress in the budget process, attention is focused on the system and process created by the Congressional Budget Act of 1974.

PPPA 6053. Financial Management for Public and Nonprofit Organizations. 3 Credits.
Intensive analysis, using the case study approach, of concepts and principles used in the not-for-profit sector for financial management purposes. Disciplines of accounting, budgeting, operations control, management, and auditing are integrated into comprehensive management control systems and include issues of system design and implementation.

PPPA 6054. Issues in Federal Budgeting. 3 Credits.
Policy tools available to pursue social objectives, including grants, loans, contracting out, regulation, tax credits, and tax expenditures. Focus on criteria such as effectiveness, efficiency, equity, legitimacy, and administrative ease.

PPPA 6055. Contracting Out and Public-Private Partnerships. 3 Credits.
Contracting out and public-private partnerships as methods of delivering government goods and services. Policy and implementation issues, including when and how contracting out may provide a more efficient and effective method of delivering government goods and services.

PPPA 6056. Regulatory Comment Clinic. 3 Credits.
Survey of regulatory theories, institutions, policies, and procedures. Application of economic tools to analyze the effect of existing and proposed regulations on social welfare. Communication of analysis to decision makers and the public.

PPPA 6057. International Development Administration. 3 Credits.
An institutional and policy context for work in the international development industry. Mainstream policies, reform efforts, and alternative approaches. Major actors, selected policy areas, and regional and comparative perspectives.

PPPA 6058. International Development NGO Management. 3 Credits.
Provides an understanding of the primary implementers of international development assistance. Overview of NGO management, highlighting those features that are particular to NGOs active in international development, including NGO relations with government and donors. Recommended: PPPA 6057 or approval of instructor.

PPPA 6059. International Development Management Processes and Tools. 3 Credits.
Training in development management tools and processes; application of international development approaches specific to the development management profession. Key theories and perspectives of community development and development management. Recommended: PPPA 6057 or approval of instructor.

PPPA 6060. Policy Formulation and Administration. 3 Credits.
Impact of economic and political factors on public policy formulation and implementation; intensive analysis of the analytical, normative, and decision-making models of the policy process with special emphasis on their relationship to current policy problems.

PPPA 6061. Banking and Financial Institutions Policy. 3 Credits.
This course examines the broad range of policy issues applicable to banking and financial institutions - including those related to monetary policy, financial stability, consumer protection, and community reinvestment. This area includes a number of questions that are at the forefront of the current national policy debate about the appropriate role of government and how best to regulate financial institutions and financial markets.
PPPA 6062. Community Development Policy and Management. 3 Credits.
This course examines the policy and practice of community development, including how private sector developers and lenders work with nonprofits, foundations, and the public sector to promote sustainable affordable housing, economic development, and other community-based projects that meet both financial as well as social impact criteria. This category of finance and development is intended to help people and communities just outside the margins of conventional, mainstream finance join the economic mainstream - and to help the economic mainstream enter emerging opportunity markets. The course explores different types of community development opportunities, including affordable housing, charter school, community facility, small business lending, and nonprofit real estate projects. The course also addresses emerging trends that are likely to affect community development policymakers and practitioners, including transportation oriented development, “green” development, use of technology, comprehensive community initiatives, and new ways of raising capital for community development projects.

PPPA 6063. Policy Issues in Corporate Social Responsibility (CSR) and Impact Investing. 3 Credits.
This course examines the role of the public and nonprofit sectors in supporting corporate and investor activities that are intended to have social and environmental, in addition to financial, benefits. These activities – often referred to as “corporate Social Responsibility” (CSR) and “impact investing” – have been described as having significant potential to create social benefits in addition to being in the financial best interests of the corporation or investor. At the same time, some critics of these activities have said that they are less about producing social benefits and more about marketing private sector activities that are primarily designed to produce corporate financial gains. The course explores what is meant by these two terms, what steps the public and nonprofit sectors have taken to support the wide range of activities that these terms encompass, and what have been the results of this work both in the United States and in other countries. The course also addresses emerging trends that are likely to affect the public and nonprofit role in CSR and impact investing in the future.

PPPA 6065. Federalism and Public Policy. 3 Credits.
PPPA 6066. Environmental Policy. 3 Credits.
Current issues in environmental policy: biodiversity, land use including wilderness protection, climate change, environmental justice, economic growth, and ecological sustainability.

PPPA 6067. Environment, Energy, Technology, and Society. 3 Credits.
The identification, examination, and evaluation of how environment, energy, and technology are interrelated and how these interactions influence policy formulation and implementation at the international, national, regional, industrial, and organizational levels. Same as SMPP 6207.

PPPA 6072. Legislative Management and Congress. 3 Credits.
Analysis of Congress as a management system; examination of its internal administration and its role in formulating policy through legislation. Staffing practices, leadership, rules and procedures, oversight functions, and coalition building.

PPPA 6075. Law and the Public Administrator. 3 Credits.
Exploration and analysis of the functions of law in a democratic society. Emphasis is placed upon the procedural, historical, and jurisprudential dimensions of American law. This broad perspective seeks to convey understanding of the law as a legal and moral force guiding and constraining public decision making.

PPPA 6076. Federal Government Regulation of Society. 3 Credits.
Analysis of the federal regulatory process as it affects the public and private sectors. The regulatory process from legal, economic, administrative, and political perspectives.

PPPA 6077. Case Studies in Public Policy. 1-3 Credits.
Critical analysis of topical issues in public policy, using a case-study approach. Specific issues covered will vary.

PPPA 6081. Poverty and Social Policy. 3 Credits.
Introduction to analytical and political issues surrounding the ongoing American and British debates on poverty and social policy; evaluating social assistance programs; the complementary roles of policy analysis and public management.

PPPA 6085. Special Topics in Public Policy. 3 Credits.
Topics announced in the Schedule of Classes. May be repeated for credit, provided the topic differs.

PPPA 6097. Practicum in Public Policy and Public Administration. 0 Credits.
PPPA 6098. Independent Research. 1-12 Credits.
Prerequisite: Permission of instructor and program director.

PPPA 6202. Econometrics-Ply Research II. 3 Credits.
Advanced topics in econometrics for policy research. This course is designed for doctoral students who wish to use econometric tools in their research. The course prerequisite is PPPA 6013 or an equivalent course in introductory econometrics; however, students should expect a greater degree of difficulty and a greater reliance on self-directed study in PPPA 8022 than PPPA 6013.

PPPA 8023. Mixed Methods in Research Design. 3 Credits.
The historical and philosophical foundations of mixed method research design; review of canonical designs; developing and honing skills to implement mixed methods research designs.

PPPA 8100. Seminar: Literature of Public Administration. 3 Credits.
Contemporary and historical literature in the institutional and intellectual development of public administration.
PPPA 8101. Research Methods. 3 Credits.
Doctoral seminar on theory and practice in research methodology. Data sources and gathering, research models and designs. Critical evaluation of research studies. Emphasis on application of research methods to policy questions.

PPPA 8105. Public Finance and Human Capital. 3 Credits.
The many facets of budgeting and finance and the research approaches used to study issues in this field.

PPPA 8111. Seminar: Public-Private Sector Institutions and Relationships. 3 Credits.
An analysis and critique of alternative theoretical frameworks for describing, understanding, and predicting the nature, values, and actions of American public and private institutions. Problems, potentials, and alternatives for structuring public and private institutional arrangements to meet the needs of society. Same as SMPP 8311. Prerequisite: doctoral degree candidate status.

PPPA 8123. Seminar: The Policy Organization. 3 Credits.

PPPA 8164. Seminar on Program Evaluation. 3 Credits.
Doctoral seminar on theory and practice in public and nonprofit program evaluation. The broad range of approaches undertaken, current controversies in the field, and the political and ethical context for evaluators.

PPPA 8174. Seminar: Public Management. 3 Credits.
Public organization theory and behavior. Organizational behavior, organization theory, and public management. Key traditions of inquiry in the study of public organizations. Restricted to PhD students only.

PPPA 8183. Current Topics & Research. 1 Credit.
Current scholarship discussed in a seminar setting. The conduct of research and presentation of research findings. May be repeated for credit.

PPPA 8190. Philosophical Foundations of Policy and Administrative Research. 3 Credits.
Philosophy of science as applied to research in public policy and public administration. The nature of and current problems related to epistemology, development and role of theories, and relationships among theory, methodology, and empirical data. Credit for this course may be applied toward the dissertation credit requirement. Restricted to public policy and administration doctoral candidates who have taken and passed the qualifying examination and completed all required course work in a policy or public administration field.

PPPA 8191. Dissertation Workshop. 3 Credits.
Critical analysis of current research. Formulation of a dissertation proposal and development of dissertation research strategies. Credit for this course may be applied toward the dissertation credit requirement. Restricted to public policy and administration doctoral candidates who have taken and passed the qualifying examination and completed all required course work in a policy or public administration field.

PPPA 8197. Doctoral Seminar: Special Topic. 1-3 Credits.

PPPA 8998. Advanced Reading and Research. 1-12 Credits.
Limited to students preparing for the Doctor of Philosophy general examination.

PPPA 8999. Dissertation Research. 3-12 Credits.
Limited to Doctor of Philosophy candidates. May be repeated for credit.

ENRP 6085. Topics in Environmental Resource Policy. 1-3 Credits.
Topics announced in the Schedule of Classes. May be repeated for credit provided the topic differs.

ENRP 6097. Practicum in Environmental Resource Policy. 0 Credits.
International students engage in an unpaid internship. Restricted to students enrolled in the MA in environmental resource policy program.

ENRP 6101. Environmental Sciences I: Physical Sciences. 3 Credits.
Basic physical sciences crucial to environmental issues, including chemistry, geology, hydrology, climate science, and cross-media interactions; land, air, and water pollution, climate change, production and consumption of energy, sea level rise, and anthropogenic changes in the cryosphere. Restricted to students in the MA in environmental resource policy; graduate certificate in contexts of environmental policy; and BA/MA in environmental studies and environmental resource policy programs; permission of the instructor may be substituted.

ENRP 6102. Environmental Sciences II: Life Sciences. 3 Credits.
Basic life sciences crucial to environmental issues, including biology, ecology, environmental health and toxicology, epidemiology, and agriculture; biodiversity, ecosystem services, habitat preservation, deforestation, conservation biology, nutrient cycling, and the impacts of climate change on living systems. Restricted to students in the MA in environmental resource policy; graduate certificate in contexts of environmental policy; and BA/MA in environmental studies and environmental resource policy programs; permission of the instructor may be substituted.

ENRP 6140. Introduction to Environmental Law. 3 Credits.
Federal environmental statutes, implementing regulations, state regulatory programs, international environmental agreements; environmental governance tools; strengths, weaknesses of legal, administrative, private approaches to environmental threats; the role of federal courts, administrative law in environmental protection.
ENRP 6145. Global Environmental Justice and Policy. 3 Credits.
Environmental justice, considered as both a movement and a public policy. Examination of environmental injustices—both perceived and actual—affecting individuals, communities, and populations. Adherence to, and enforcement of, environmental laws and regulations that affect the allocation of environmental benefits and the distribution of sources of toxic pollution and other hazards.

ENRP 6295. Research Topics in Environmental Resource Policy. 1-3 Credits.
May be repeated for credit to a maximum of 6 credits.

ENRP 6298. Seminar in Environmental Resource Policy. 3 Credits.
The capstone seminar involves team development of a project sponsored by an external entity, such as a government agency or non-governmental organization, or participation in an aspect of a research project directed by a faculty member. The student team functions as an external consultant tasked with analysis of the chosen issue.