Graduate Programs in Sustainability

NYU Wagner- Master in Urban Planning

NYU Wagner's Master of Urban Planning program brings students into direct contact with the critical urban challenges of our time. Today's urban planners must balance development, community needs and social justice, provision of critical public services, sustainability and security.

Housed within a school of public service, rather than a school of architecture, the Master of Urban Planning program uses the broader contexts of policy, management and finance to prepare students with the critical thinking they need to succeed in urban design, land use, economic and community development, housing, and environmental and infrastructure planning.

NYU Wagner is at the forefront of the vital issues and debates about the future of cities, and the program presents myriad opportunities to obtain and practice the skills needed to confront these challenges, in New York and beyond.

of credits/courses to obtain degree

60 credits required for degree completion, including capstone

NYU SCPS- Master of Science in Global Affairs

The **M.S. in Global Affairs** is the flagship graduate program of the Center for Global Affairs (CGA), ranked by the <u>Foreign Policy Association</u> in 2010 and 2011 as one of the nation's leading institutions preparing students for international careers. The master's program provides you with the in-depth knowledge and the contextual perspectives for becoming a successful, well-rounded professional in the global arena.

Faculty members are scholars and skilled practitioners, including former officers of the United Nations, international attorneys, leaders of organizations engaged in refugee relief and the protection of human rights, diplomats, activists, economists, and global energy experts from whom you will acquire both nuanced analytical understanding and the methodologies to develop and to implement strategic solutions that address critical global problems.

In every nation, globalization requires a growing need for knowledgeable professionals who are capable of identifying solutions to the unique challenges of an interdependent world defined by socioeconomic transformation, the rise of new and emerging world powers, and changing cultural paradigms. The M.S. in Global Affairs provides a multidisciplinary approach and equips you with the knowledge and the advanced skills to navigate different sectors of the international arena, whether working with individuals, policymakers, private organizations, or the public sector.

The M.S. in Global Affairs is a 42-credit program, which includes three components: a core curriculum, a choice of concentrations, and either an advanced independent research project or a team-based capstone project. The core curriculum focuses on the fundamentals of global affairs. Areas of concentration include:

- Environment/Energy Policy
- Human Rights and International Law
- International Development and Humanitarian Assistance
- International Relations
- <u>Peacebuilding</u>
- Private Sector
- Transnational Security

The advanced independent research project involves primary-source research under the guidance of a faculty member, and leads to a thesis. The capstone project involves the development of a collaboratively designed action plan informed by scholarship, which seeks to reveal new solutions to a difficult challenge facing the international community.

Students in the master's program with an interest in international development, policy and management also have the opportunity to take up to two elective courses offered by the <u>NYU Robert</u> <u>F. Wagner Graduate School of Public Service</u>. Courses are structured to meet the needs of both working professionals and full-time students. Typically, students complete the degree within two years of full-time study, or within two to five years of part-time study.

<u># of credits/courses to obtain degree</u>

42 credits for degree completion

Bard College: Center for Environmental Policy - Masters in Environmental Policy

The program leading to the master of science degree in environmental policy offers three options. Most students follow the two-year program, which includes a four- to six-month internship and a Master's Project. Environmental science, environmental and natural resource economics, environmental law, and environmental policy comprise the core first-year courses of the environmental policy track. These courses move progressively through several topics, all concurrently addressing the same environmental theme. The curriculum's modular organization enables students to examine one specific environmental area at a time in an integrated, comprehensive, and realistic manner.

<u># of credits/courses to obtain degree</u>

58 credits for degree completion

Bard College: Center for Environmental Policy - Masters in Climate Science and Policy

The climate degree covers the interplay between climate systems, ecosystems, and agricultural systems on the one hand and solutions on the other, training future policy leaders to guide efforts in greenhouse gas mitigation and adaptation. The first-year curriculum focuses on climate science, energy consumption, and the agriculture and ecosystem linkages to climate. It connects core scientific principles to socioeconomic impacts, infrastructure investment, and political and legislative responses to global

climate change. Students are taught the basic concepts of environmental and natural resource economics, environmental policy, and detailed analyses of U.S. and international climate law and policy.

of credits/courses to obtain degree

59 credits for degree completion

Bard College: MBA In Sustainability

The Bard MBA curriculum is an integrated series of 19 courses taught over two years. Classes provide grounding in core business competencies with a focus throughout on the integrated bottom line: economics, environment, and social equity. From courses on leadership to operations, marketing to finance, and economics to strategy, our program builds sustainability from the ground up. The Bard MBA curriculum provides an unparalleled level of integration and focus. Visit the curriculum page to see how courses are structured in each of the four terms, and explore the detailed, rich content our program offers.

of credits/courses to obtain degree

19 courses over 2 years

<u>Columbia University: School of Continuing Education- Program in Sustainability</u> <u>Management</u>

The M.S. in Sustainability Management is based upon years of experience in bridging research and practice, with a curriculum based on new and existing courses at the University, taught by faculty and researchers who are leaders in the fields of environmental management, earth science, and engineering. In response to the increasing global challenges all organizations face, from limiting their carbon emissions to managing their water resources, the program melds academic leadership, scientific rigor, and professional practice to form a unique interdisciplinary community dedicated to making lasting advances in global sustainability practice.

The program takes a bold and innovative approach to sustainability that prioritizes the protection of Earth's systems and resources as well as the spread of social and economic opportunities for all people. To achieve sustainable development, the Earth Institute is conducting and applying interdisciplinary scientific research to address many cross-cutting issues while training a new generation of problem solvers to tackle these issues in all areas of society. Finding solutions to one problem, involves tackling other related challenges. This is at the core of sustainability management. This new generation of problem solvers needs to be able to account for complex systems of water, environmental services, climate, waste and energy to be able to maximize efficient usage and minimize their negative impacts.

The Earth Institute is affiliated with 30 academic programs at Columbia University, and has developed numerous innovative courses training students to understand and address the pressing and complex issues of environment and sustainability management, and provides seminars and events in the field. Students enrolled in the M.S. in Sustainability Management are an integral part of this engaging and forward-looking community.

Who Should Apply

The M.S. in Sustainability Management is ideal for professionals currently working in or aspiring to be in management positions in regulatory compliance, facilities management, operations, and environmental stewardship. The program is geared towards those who have some form of sustainability responsibility in their current position, are looking to incorporate this into their current organization practices, or are looking to switch current career paths to pursue opportunities in this field. It is an innovative program that is applicable to many fields including the growing field of sustainability management, environmental stewardship, risk and environment management, financial services, utilities, industrial manufacturing, energy, pharmaceuticals, media, transportation, food service, and technology.

College level science, math and economics are preferred but not essential if familiarity with these subjects has been developed by other means. Practitioner experience is greatly valued and accomplishments in the fields of sustainability management will be considered.

of credits/courses to obtain degree

36 points for degree completion. Completed in 3-6 terms. Good for full-time or part-time students

Columbia University: Earth and Environmental Engineering

Many careers in Earth and environmental engineering prefer, if not expect, an advanced degree of some sort. However, career opportunities span a wide range of vocations, including technology development, engineering consulting and design, basic and applied research, management, and advocacy. Consequently, the graduate skill set required of an Earth and environmental engineer can vary considerably. To support these various career options, EEE offers a broad set of graduate degrees, each with a different emphasis.

The <u>master of science degree</u> is designed for students who wish to be actively and directly involved with current environmental problems, and contribute innovative ideas towards their resolution. Students are encouraged to specify one of three concentration areas, in order to sharpen their focus within Earth and environmental engineering.

The <u>professional degree</u> provides advanced training beyond the master of science degree, with a specialized focus within one of our concentration areas. It is intended for students

who want to become technological leaders in their field and drive the innovations that will shape the future, but who wish to accomplish this through entrepreneurship rather than research.

The <u>doctoral degree</u> is intended for students who seek to reach the highest level of knowledge in a specific topic within Earth and environmental engineering, and to advance this knowledge through basic and/or applied research. The expertise and experience that is gained will be highly valued across multiple professions and will enable students to play a leading role in solving the major environmental problems faced by society.

of credits/courses to obtain degree

MS: between 30-48 credits

Professional Degrees: 60 credits

Ph.D: varies

Columbia University: Master in Environmental Science and Policy

The Master of Public Administration in Environmental Science and Policy trains sophisticated public managers and policymakers, who apply innovative, systems-based thinking to environmental issues. The program challenges students to think systemically and act pragmatically. To meet this challenge, we offer a high-quality graduate program in management and policy analysis that emphasizes practical skills and is enriched by ecological and planetary science.

Our approach reflects the system-level thinking that is needed to understand ecological interactions and maintain the health of Earth's interconnected ecological, institutional, economic, and social systems.

Graduates are creating a new profession of earth systems problem-solvers: individuals who are prepared for leadership positions in local, state, and federal government agencies, as well as in nonprofit organizations and the environmental divisions of private corporations. They are also well suited for designing cost-effective programs and implementing policies. Most importantly, a deep understanding of earth systems informs their work, allowing them to craft the kinds of solutions necessary for our increasingly complex environmental problems.

This twelve-month program, that starts in late May, offers students a unique educational experience at Columbia University's Morningside Campus in New York City.

<u># of credits/courses to obtain degree</u>

54 credits to obtain degree

Columbia University- Ph.D in Sustainable Development

The purpose of the PhD in Sustainable Development is to create a generation of scholars and professionals equipped to deal with some of the most crucial problems in the world today. By combining elements of a traditional graduate education in social science, particularly economics, with a significant component of training in the natural sciences, the program's graduates will be uniquely situated to undertake serious research and policy assessments with the goal of sustainable development. The program includes a set of rigorous core requirements, but also provides students with the flexibility to pursue indepth research in a broad variety of critical policy issue areas.

Cornell University: Master- Human Environment Relations

The research tradition within the Human Environment Relations major is based in the social sciences, and particularly on environmental psychology and human factors and ergonomics. Using a systematically-generated knowledge base to guide the search for an evaluation of appropriate design solutions and methods is fundamental to the major. The underlying premise is that systematic, empirical research based in the social sciences--when combined with imagination--can contribute to the planning, design, and management of environments that enhance the individual and organizational effectiveness.

Program Focus

The M.S. program brings together faculty and students with expertise in the fields of interior, industrial, and graphic design, architecture, art, design history, planning, building technology, environmental psychology, human factors and ergonomics, economics, and facility planning and management to work on problems related to the interior environment.

The M.S. in Human Environment Relations major rests on the following basic premises:

Development of the knowledge base guiding the planning, design, and management of physical settings requires systematic, empirical research.

Individual and organizational behaviors are affected by the form of the environment.

The users of environments are diverse and have different needs. Individual characteristics such as gender, stage in life cycle, family structure, role or task affect our environmental needs. In addition, organizational characteristics such as organizational culture, goals, and structure help shape building form and use.

• The planning, design, and management of good environments require consideration of all users, from the president, housing manager, hospital administrator, and principal to the clerk, tenant, patient, and student.

• Understanding organizational and human needs is no less critical than understanding financial, technological and aesthetic factors influencing the planning, design, and management of our physical surroundings.

• The processes through which environments are planned, designed, and managed are as important as the physical designs themselves.

Concentrations

There are four concentrations within the Human Environment Relations major:

- Environmental Psychology
- Facility Planning and Management
- Human Factors and Ergonomics
- <u>Sustainable Design Studies</u>

Pratt Institute- City and Regional Planning

The CRP focuses on participatory and hands-on planning; sustainable and equitable communities; and urban design / placemaking. Lodged in a School of Architecture within a world-famous art school, the program values creative thinking as well as analysis.

The CRP features studio learning—with three studios instead of the usual one. Studios entail professional-level teamwork on real projects on behalf of civic and community clients from the city's diverse neighborhoods. The largely interdisciplinary studios provide a rich environment for peer learning, reflection through action, honing skills, improving teamwork and leadership skills, and problem solving. The CRP draws its faculty from the top ranks of New York City's vast array of civic and community organizations, public agencies, and national consultancies. These "scholar-practitioners" assure a practical outlook that emphasizes skills and best practices as much as theory.

In CRP students enjoy an extraordinary 80 percent success rate in finding meaningful <u>internships and jobs</u> while attending Pratt, in equal parts due to Pratt's studio-based pedagogy, the contacts afforded by high-powered practitioner faculty, and courses running at night (just for this reason). The CRP program's **rate of employment six months after graduation is 95 percent**—among the highest in the Institute.

Interdisciplinary and specialized study

The CRP is part of the Programs for Sustainable Planning and Development (PSPD). Once completing the core coursework in the CRP program, students are free to take electives in the three other PSPD programs, allowing for cross-disciplinary specialization as well as experimentation. Further, the CRP and other PSPD programs can be sequenced to allow students to graduate with two advanced degrees at considerable savings in time and money, including the potential for a single thesis for both degrees. Finally, an open door allows CRP students to take selected courses at Brooklyn Law School. CRP students can even pursue a joint degree in city planning and law; for details, contact julie.sculli@brooklaw.edu.

The PSPD further provides CRP students with the ability to specialize in one of six focus areas (each with its own advisor), in addition to being able to design their own degree. The most common focus areas are as follows (in order of popularity):

- Community Development
- Physical Planning and Contextual Urban Design
- Placemaking and Transportation
- Sustainability and Resiliency Planning
- Preservation Planning
- Progressive Real Estate Practice.

As a new area of focus, CRP students have the option to take courses in and engage fully in Pratt's RAMP, which stands for <u>Resiliency Adaptation Mitigation Planning</u>. RAMP entails a series of linked multi-departmental studios, seminars and workshops (in partnership with the University of Hawaii Urban Resilience Lab). It also provides internship opportunities involving grants to provide research, technical assistance, and advocacy to community groups in areas where social and environmental justice issues compound efforts.

Finally, all CRP students have the opportunity to study **abroad**, including, at present, courses in Copenhagen, Denmark (urban design), Goa, India (planning and sustainability studio), Istanbul, Turkey (justice and redevelopment), Oaxaca, Mexico (sustainability), Sao Paolo, Brazil (community innovation), Rome, Italy (preservation), Tokyo, Japan (urban design), and Vienna, Austria (facilities management). Pratt approaches international study with humility: international courses are about learning from other urban forms, other cultures, and other modes of planning; not about flying in and out on the assumption that our own urban form, culture, and planning mode knows best.

Ideal program size, class size, opportunities, and location.

The CRP limits the number of incoming students in any one semester to fewer than 20, in order to better individualize students. The total enrollment is approximately 80, large enough to maintain a robust set of CRP electives in addition to those offered by the other PSPD programs. Classes are generally small, with the average class size at less than ten students per faculty member. Students get to work intimately with professors, especially in studios.

There are numerous <u>internship and fellowship opportunities</u>, particularly at the <u>Pratt</u> <u>Center for Community Development</u>—one of the nation's most accomplished advocates for equity communities. <u>SAVI</u>—the Institute's new GIS and data visualization lab provides another opportunity for skills development and research. New York City is an amazing place to study all aspects of urbanism and participate in planning, sustainability, preservation, and real estate innovation. Pratt's main campus is located in Brooklyn's historic Fort Greene neighborhood, halfway between Williamsburg and Park Slope.

of credits/courses to obtain degree

60 credits for degree completion

- Personal contact or correspondence with the applicant
- History of civic engagement or leadership
- Prior work experience
- Statement of Purpose
- Letters of reference
- Resume

Pratt Institute- Sustainable Environmental Systems. M.S.

The mission of the Sustainable Environmental Systems program is to provide an innovative, professional development education to a diverse student body. Students learn the interdisciplinary skills needed to assess contemporary environmental issues; catalyze innovative environmental problem solving; uphold environmental and social justice; and engage diverse stakeholders in designing and developing sustainable plans, policies, and communities. Graduates are prepared to take on a range of roles as policy analysts, sustainability consultants, low impact developers, researchers, and advocates, collaborating with environmental scientists, policymakers and communities.

In response to the environmental challenges of the 21st century, including climate change, public and private sectors worldwide are seeking to "green" their practices. Today there is an increasing demand for environmental professionals who have a holistic understanding of the complex interactions that lead to environmental problems and are able to collaborate with multiple disciplines to identify and implement sustainable best practices. Pratt Institute's Graduate Center for Planning and the Environmental Systems. By combining a foundation of theoretical and technical core courses with innovative minicourses, Pratt offers a uniquely comprehensive curriculum that fosters exposure to "cutting edge" practicing professionals.

of credits/courses to obtain degree

40 credits for degree completion

The City College of New York- Sustainability in the Urban Environment, M.S.

The Sustainability in the Urban Environment Masters program draws upon emerging approaches in the disciplines of architecture, engineering, science, and social sciences. It

aims to prepare students to devise new generations of buildings, urban infrastructure, and open spaces while considering rapid urbanization, climate change, resource limitations, and potential environmental degradation. Graduates also develop leadership and teamwork skills that give them an advantage in diverse professional settings that demand collaboration among teams of scientists, engineers, architects, and policymakers.

City College of New York serves as a national and regional resource while providing the City with the skilled workforce needed to drive its economy. This timely educational program is designed to meet the expanding employment demands for professional leaders in the emerging fields of sustainable architecture and engineering, informed by science and social sciences. It aspires to complement long-term planning efforts such as the City of New York's PlaNYC 2030: A Greener Greater New York, which was developed by the Mayor's Office of Long-Term Planning and Sustainability and which sets 10 major goals and 127 cross-cutting initiatives to sustain and enhance the quality of life in New York City.

of credits/courses to obtain degree

30 credits for degree completion

Certificate and non-certificate programs in building operations and audits, renewable energy, construction/ real estate/ design, business & other with CUNY

<u>The New School for Public Engagement: Environmental Policy & Sustainability</u> <u>Management</u>

The interdisciplinary MS in Environmental Policy and Sustainability Management educates professionals for 21st-century careers as planners, managers, policy analysts, and consultants who will design environmental policies and work in institutions to develop and improve sustainability practices.

Through their courses and research, students acquire broad and deep understanding of the relationship of ecological, financial, and social sustainability and organizational success. Graduates will be equipped to

- Work as analysts or implementers of sustainability policies in government, industry, and not-for-profit organizations
- Join the growing community of transdisciplinary scholars and practitioners dedicated to making institutions and activities sustainable and renewable in a world of increasingly scarce resources

Program Features

All Milano School graduate programs are flexible and convenient for working professionals as well as recent college graduates. You can study full-time and complete

the program in two years or part-time and take up to five years to earn the master's degree.

Students grapple with interrelated challenges such as global climate change, natural resource depletion, financial sustainability, and innovative organizational change. The program is distinctive in establishing the integral relationship among sustainability goals. Like all Milano School management programs, it emphasizes

- Change-management preparation
- Critical perspectives on institutions
- Cross-sector collaboration
- Joint training of managers and policy analysts
- Systemic linkages among environmental, social, and economic issues
- Urban ecology

Interdisciplinary Initiatives

Current urban environmental issues in New York City and the region provide an exceptional laboratory for experiential learning. Milano students have access to many practice-based experiences such as the <u>Tishman Environment and Design Center</u>, Community Development Finance Lab, the Chase Competition, an <u>International Field</u> <u>Program</u>, government and corporate internships, and inter-divisional projects at The New School. For example, In 2011, students from several divisions of The New School and from Stevens Institute of Technology came together to design and build a solar-powered house, the EmpowerHouse, for the U.S. Department of Energy's biennial <u>Solar Decathlon</u> competition. This project won the Washington, D.C. Mayor's Sustainability Award in 2012, but it didn't end there. <u>Read More</u>.

of credits/courses to obtain degree

42 credits to obtain degree

Rensselaer Polytechnic Institute- Ecological Economics, Values and Policy

A unique collaboration between Rensselaer's world-renowned Department of Science and Technology Studies (STS) and Department of Economics centered in the School of Humanities and Social Sciences, EEVP proceeds from the premise that twenty-first century environmental education must be multidisciplinary, innovative, and actionoriented. EEVP draws on Rensselaer's extraordinary resources in humanities, social sciences, natural sciences, and engineering to provide an unparalleled combination of stimulating courses and instructors. The EEVP faculty includes highly regarded, awardwinning professors of ecological economics, environmental ethics and philosophy, environmental politics and policy, environmental law and culture, and many environmental science and engineering specialties.

Program Summary

The Ecological Economics, Values and Policy Professional Masters Program builds on our nationally recognized cluster of environmental faculty and course offerings in the economic, political, social, cultural and ethical implications and interactions of science, technology, environment, and society. It is aimed at students with a B.S. degree who wish to obtain additional education for professional positions in the government, nonprofit sector, or private sector. The mix of economics and policy courses is especially good preparation for students who wish to do policy-related work in the government or nonprofit sector, and an internship requirement allows students to get hands-on experience in the state government or NGO sector. Some students are working professionals in the Capital District area, and part-time options are available for working professionals. Upon completion of the program, graduates obtain jobs as environmental activists or professionals, or they go on additional work. A significant portion of the EEVP alumni have gone on for a Ph.D. in economics, policy, or other social science field, and some have also gone to law school.

of credits/courses to obtain degree

30 credits to obtain degree

Rochester Institute of Technology: Master in Sustainability

Like the Ph.D. program, the M.S. degree program is a rigorous multi-disciplinary program in sustainability science and analysis that focuses on systems that create goods and services using processes that are: non-polluting; conserving of energy and natural resources; economically viable; and safe and healthful for workers, communities, and consumers. Coursework and research takes a systems level and interdisciplinary approach to solving seemingly intractable sustainability problems, as opposed to single disciplinary and locally optimized approaches destined to yield marginal positive impacts. Several tracks are available to students:

Sustainable Manufacturing – the development of processes and logistics that reduce the environmental footprint of products in the manufacturing stage and promote the recovery of materials and embodied energy in products at their end-of-life.

Sustainable Mobility – the creation of vehicle systems and fuels that reduce energy consumption and draw on renewable sources of energy.

Sustainable Energy Systems – the development and management of energy systems that rely heavily on renewable sources.

Sustainable Built Environments – specifying and monitoring high-performance buildings.

Or students can create their own concentrating by selecting elective courses and capstone/thesis topic.

Graduates of this program will be prepared to undertake or continue careers in their chosen fields with an understanding of basic sustainability principles and the expertise to analyze and solve complex sustainability issues.

of credits/courses to obtain degree

minimum of 30 credits

Rensselaer Polytechnic Institute- Ph.D

GIS's Ph.D. in Sustainability degree was established in September 2008. This broadly defined multidisciplinary program is designed for students who are driven to become sustainability change agents within organizations world wide, including industry (executive management, product development, manufacturing & remanufacturing, supply chain management, and service), executive and legislative branches of government, nongovernmental agencies, academic institutions, professional associations, financial and investment communities, the indemnification industry, and legal profession.

Graduates will have skills in such diverse areas as development of sustainable product and manufacturing systems, industrial ecology, economics of sustainability, risk analysis of sustainable systems, and multicritera decision making. They will study methodologies such as life cycle assessment, environmental risk and impact assessment, design for the environment, pollution prevention, closed loop supply chain management, and product life assessment, and apply these in their research. The development of the Ph.D. program was funded in part by a grant from the Henry Luce Foundation.

For more information on the development of sustainable education, including a discussion of RIT's program, please click on the following article which appeared in the Chronicle of Higher Education.

State University of New York College of Environmental Science and Forestry

The graduate program in environmental science (GPES) offers M.S., M.P.S. and Ph.D. degrees. GPES was created in the early 1970s as a unique response to the emerging institutional and analytical challenges of developing environmental problems. The program, which draws upon faculty from throughout the College, emphasizes a multidisciplinary social and natural science approach to environmental understanding and stewardship. It maintains a strong academic orientation, facilitating student and faculty engagement of fundamental environmental challenges such as resource utilization and sustainability, the uses and limits of scientific prediction, risk and sustainability, the uses and limits of scientific prediction and risk analysis, and a holistic concern for the health of the environment.

The mission of GPES is to provide interdisciplinary education, research and public service to prepare students to comprehensively address environmental concerns and problems, investigate practical solutions to them and foster effective environmental stewardship. The program provides for the following:

1. **Multidisciplinary approach**: recognition of the necessity to approach environmental problems with input from several disciplines and professions,

2. **Holistic perspective**: awareness of and deference to the interdependence of elements within broadly defined ecosystems, including physical, biological, social and economic systems,

3. **Topical grounding**: competency to understand and apply the principles of a particular subject of environmental inquiry in sufficient depth to interact with other disciplines and professional fields,

4. **Realistic experience**: internships, focused projects, theses and seminars provide for direct interaction of legal, economic, political and social systems which underlie decision making.

Master of Professional Studies

Master of Science

Doctor of Philosophy

of credits/courses to obtain degree

M.S- minimum of 30 credits

M.P.S- minimum of 30 credits including 24 in resident at ESF

Ph.D- varies