

# SPEA

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- VERONICA STIDVENT, Austin, TX
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- MELANIE WALKER, Bloomington, IN
- DAVID WANG, Naples, FL

## Overview

The School of Public and Environmental Affairs (SPEA), the nation's largest school of its kind, is a professional school dedicated to applied, interdisciplinary learning

combining the study of public affairs and environmental sciences. The interests of the faculty and professional staff typically fall into one or more of the following areas:

- arts administration
- criminal justice
- environmental science and policy
- finance and economics
- homeland security
- law
- nonprofit management
- policy and administration
- public management
- public safety
- urban affairs

The school's faculty, staff, and students work individually and jointly to solve problems that require SPEA's unique combination of in-depth knowledge in the natural, behavioral, social, and administrative sciences.

SPEA, because of its broad program base, offers scientific and technical assistance to Indiana communities from all of the eight Indiana University campuses. The school maintains a wide network of relations with a large number of public agencies at all levels of government.

The degree programs offered by the School of Public and Environmental Affairs range from the associate degree, offered primarily on some of the regional campuses, to the Ph.D. The school offers four professional master's degrees for individuals interested in achieving leadership positions in public, private, and nonprofit organizations:

- Master of Arts in Arts Administration (M.A.A.A.)
- Master of Public Affairs (M.P.A.)
- Master of Science in Criminal Justice and Public Safety (M.S.C.J.P.S.)
- Master of Science in Environmental Science (M.S.E.S.)

The M.P.A. is a professional degree structured around concepts and skills essential to public management, policy, and planning activities in the government, nonprofit, and private sectors. The M.S.E.S. provides students with a strong background in environmental sciences while emphasizing the applied aspects of environmental research and management. The M.A.A.A. prepares students for careers in arts management and cultural policy. The M.S.C.J.P.S. combines coursework in criminal justice, public safety and management to address increasing demand for advanced education in criminal justice and public safety. The M.P.M. program is an interdisciplinary professional program structured around concepts and skills essential to management, policy, planning activities within governmental, quasi-governmental, and nonprofit organizations. Additionally, SPEA's M.P.A., M.S.E.S. and M.P.M. may be pursued in combination with degrees in law, library science, biology, information science, journalism, geography, geological sciences, and degrees offered by a number of area studies centers and institutes.

At the doctoral level, SPEA offers:

- Ph.D. in Environmental Science
- Ph.D. in Public Affairs

- Ph.D. in Public Policy

The Ph.D. in public policy is jointly delivered with the Department of Political Science. The Ph.D. in environmental science is delivered by SPEA with the cooperation of the Departments of Biology, Chemistry, Geography, Geological Sciences, and others.

## Contact Information

### [Bloomington Graduate Program Offices](#)

School of Public and Environmental Affairs  
Indiana University  
1315 E. Tenth Street  
Bloomington, IN 47405-1701

*Masters Program Office*  
SPEA 260  
Phone: (812) 855-2840  
Toll Free: (800) 765-7755  
Fax: (812) 855-7802  
[speampo@indiana.edu](mailto:speampo@indiana.edu)

*Ph.D. in Environmental Science Program Office*  
SPEA 418  
Phone: (812) 855-4953  
Toll Free: (800) 633-0023  
Fax: (812) 855-7547  
[bsnega@indiana.edu](mailto:bsnega@indiana.edu)

*Ph.D. in Public Affairs and Ph.D. in Public Policy Program Office*  
SPEA 441  
Phone: (812) 855-2457  
Toll Free: (800) 765-7755  
Fax: (812) 855-7802  
[@swangok@indiana.edu](mailto:@swangok@indiana.edu)

### [Indianapolis Graduate Programs](#)

School of Public and Environmental Affairs  
Indiana University-Purdue University Indianapolis  
Business/SPEA Building 3025  
801 W. Michigan Street  
Indianapolis, IN 46202-5152  
Phone: (317) 274-4656  
Toll Free: (877) 292-9321  
Fax: (317) 278-9668  
[speaga@iupui.edu](mailto:speaga@iupui.edu)

## Admission

### Application

Information about graduate study, including literature and application materials, may be obtained from the School of Public and Environmental Affairs offices.

### Bloomington Campus

#### Eligibility

For most programs, applicants with bachelor's degrees in any field from an accredited institution are eligible to apply for admission to the graduate programs of the School of Public and Environmental Affairs.

M.S.E.S: The M.S.E.S. Admissions Committee looks for applicants to have an adequate background in quantitative and natural science subjects. As a minimum, an applicant must have completed at least one semester of: calculus

and chemistry with laboratory. Familiarity with statistics and biology/ecology is considered desirable.

### Application Submission

Applicants should apply to a degree or certificate program and request merit aid consideration as early as possible before the desired semester of enrollment. Priority for admission and merit-based funding consideration for the fall term is given to students who complete their application file by February 1. However, international students must submit application materials by December 1. All applications must be received by May 1. Applications are accepted after that date on a case by case basis.

### Admission

Each application for admission is carefully evaluated by the admissions committee for the appropriate degree. Applicants to all SPEA degree programs must do the following:

- Submit [applications](#) to the M.P.A.–M.S.E.S. program office.
- Submit complete official transcripts from all colleges and universities attended. Students who have taken course work on any Indiana University campus do not need to submit an Indiana University transcript.
- Pay a nonrefundable application fee to Indiana University.
- Submit three Application Reference Forms completed by individuals familiar with the applicant's activities and potential to succeed in graduate work. It is recommended that two of the three be from academic sources.
- Submit a personal essay and include any supplemental materials that may further support a case for admission (i.e., resume).
- Submit proof of bachelor's degree certification from an accredited institution. Students who have not completed undergraduate course work at the time of application may be admitted based on the strength of previous work, but a final transcript attesting to the award of a bachelor's degree must be submitted before the student can enroll. Normally, a cumulative grade point average of 3.0 (4.0 = A) is the minimum for regular admission.

### LSAT and GRE Requirements

Applicants for the M.P.A.–J.D. and M.S.E.S.–J.D. may submit LSAT (Law School Admission Test) scores in lieu of GRE (Graduate Record Examination) scores.

Other degrees require the GRE. Information concerning the GRE is available from [Graduate Record Examination, Educational Testing Service](#), P.O. Box 6000, Princeton, NJ 08541-6000, (609) 771-7670 or (866) 473-4373. Information concerning the LSAT is available from Law School Admission Services, P.O. Box 2000, Newtown, PA 18940, (215) 968-1001.

### Arts Administration Program

Students who have achieved outstanding undergraduate records will be considered for admission. Approximately 25-30 students are selected each year and may enter in the fall semester only.

Letters of inquiry and requests for application should be directed to the Arts Administration Program, SPEA 260,

Indiana University, Bloomington, IN 47405-7006 or e-mailed to [maaainfor@indiana.edu](mailto:maaainfor@indiana.edu). Applications may be completed [online](#). Completed applications (those not completed online), transcripts, GRE scores, and all other correspondence related to admission should be sent to the address above. The deadline for receipt of all materials is February 15.

## Indianapolis Campus

### Eligibility

For most programs, applicants with bachelor's degrees in any field from an accredited institution are eligible to apply for admission to the graduate programs of the School of Public and Environmental Affairs. Application Information about graduate study, including literature and application materials, may be obtained from the School of Public and Environmental Affairs Web site ([www.spea.iupui.edu](http://www.spea.iupui.edu)) or [here](#) for more information.

## Admission Status

### Regular (Unconditional) Admission Status

Applicants have met all admission requirements for the specific degree program and enroll in accordance with the entry date contained in the application for admission.

### Deferred Admission

Following notice of regular admission, applicants may defer enrollment for a maximum of one year. A candidate must submit the enrollment deposit in order to officially have deferral status.

### Provisional Admission

On some campuses applicants may be admitted on a provisional basis if GRE or LSAT scores or prior grade point averages are below admission criteria. Provisional status is removed upon fulfillment of conditions stipulated by the respective degree program admissions committee.

### Admission with Deficiencies

Applicants may be admitted with deficiencies on a case-by-case basis if they lack course work in certain foundation areas such as mathematics, economics, or statistics. Campus and degree policies may vary.

### Nondegree Enrollment

Applicants who have a bachelor's degree and who have not been admitted to the graduate program may enroll in SPEA courses as nondegree graduate students. Procedures may vary across campuses.

If nondegree students later wish to obtain SPEA graduate degrees, they must apply for admission to the specific degree program. Satisfactory performance as a non-degree student does not guarantee acceptance into a professional program.

## Programs

The School of Public and Environmental Affairs offers a variety of graduate degree and certificate programs on six of the eight Indiana University campuses: Bloomington, Indianapolis, Fort Wayne, Northwest, South Bend, and Kokomo.

### Degree and Certificate Programs by Campus

#### Bloomington

##### M.P.A.

- Economic Development
- Energy
- Environmental Policy and Natural Resource Management
- Health Policy
- Information Systems
- International Development
- Local Government Management
- Nonprofit Management
- Policy Analysis
- Public Financial Administration
- Public Management
- Sustainability and Sustainable Development
- Specialized

##### M.P.A. Dual Degrees

- Master of Public Affairs–Master of Science in Environmental Science (M.P.A.–M.S.E.S.)
- Master of Public Affairs–Doctor of Jurisprudence (M.P.A.–J.D.)
- Master of Public Affairs–Master of Arts in African American and African Diaspora Studies (M.P.A.–M.A.)
- Master of Public Affairs– Master of Arts in African Studies (M.P.A. – M.A.)
- Master of Public Affairs–Master of Arts in Central Eurasian Studies (M.P.A.–M.A.)
- Master of Public Affairs–Master of Arts in East Asian Languages and Cultures (M.P.A.–M.A.)
- Master of Public Affairs–Master of Information Science (M.P.A.–M.I.S.)
- Master of Public Affairs–Master of Arts in Latin American and Caribbean Studies (M.P.A.–M.A.)
- Master of Public Affairs–Master of Arts in Near Eastern Languages and Cultures (M.P.A.–M.A.)
- Master of Public Affairs–Master of Library Science (M.P.A.–M.L.S.)
- Master of Public Affairs–Master of Arts in Arts Administration (M.P.A.–M.A.A.A.)
- Master of Public Affairs–Master of Arts in Russian and East European Studies (M.P.A.–M.A.)
- Master of Public Affairs–Master of Arts in European Studies (M.P.A.–M.A.)

##### M.S.E.S.

- Applied Ecology
- Energy
- Environmental Chemistry, Toxicology, and Risk Assessment
- Specialized
- Water Resources

##### M.S.E.S. Dual Degrees

- Master of Science in Environmental Science–Doctor of Jurisprudence (M.S.E.S.–J.D.)
- Master of Science in Environmental Science–Master of Arts in Biology (M.S.E.S.–M.A.)
- Master of Science in Environmental Science–Master of Arts in Geography (M.S.E.S.–M.A.)
- Master of Science in Environmental Science–Master of Public Affairs (M.S.E.S.–M.P.A.)

- Master of Science in Environmental Science–Master of Science in Chemistry (M.S.E.S.–M.S.)
- Master of Science in Environmental Science–Master of Science in Geography (M.S.E.S.–M.S.)
- Master of Science in Environmental Science–Master of Science in Geological Sciences (M.S.E.S.–M.S.)
- Master of Science in Environmental Science–Master of Science in Physics (M.S.E.S.–M.S.)

#### M.A.

- Arts Administration

#### Ph.D.

- Environmental Science
- Public Affairs
- Public Policy

#### Ph.D. Minors

- Environmental Studies
- Nonprofit Management
- Public Management
- Regional Economic Development
- Urban Affairs

#### Certificates

- Hazardous Materials Management
- Nonprofit Management
- Public Budgeting and Financial Management
- Public Management
- Social Entrepreneurship

#### Indianapolis

##### M.P.A.

- Criminal Justice
- Nonprofit Management
- Policy Analysis
- Public Management
- Urban Sustainability
- Master of Science in Criminal Justice and Public Safety

##### M.P.A. Dual Degrees

- Master of Public Affairs–Doctor of Jurisprudence (M.P.A.–J.D.)
- Master of Public Affairs–Master of Arts in Philanthropic Studies (M.P.A.–M.A.)

##### M.S.C.J.P.S.

- Criminal Justice and Public Safety

##### Ph.D. Minor

- Nonprofit Management

#### Certificates

- Executive Graduate Certificate in Library Management
- Homeland Security and Emergency Management
- Master of Library Science - Public Management Certificate
- Master of Library Science - Nonprofit Management Certificate

- Master of Library Science - Executive Graduate Certificate in Library Management
- Nonprofit Management
- Public Management
- Social Entrepreneurship

Additional information on degree requirements through Indianapolis SPEA may be obtained [here](#).

## Bloomington Campus

Master of Public Affairs (M.P.A.)

Master of Public Affairs Dual Degree Programs

Master of Science in Environmental Science (M.S.E.S.)

Master of Science in Environmental Science Dual Degree Programs

Master of Arts in Arts Administration (M.A.A.A.)

Doctor of Philosophy (Ph.D.) in Environmental Science

Doctor of Philosophy (Ph.D.) in Public Affairs

Doctor of Philosophy (Ph.D.) in Public Policy

Doctoral Minors

Certificate Programs

## Master of Public Affairs

The Master of Public Affairs program is an interdisciplinary, professional program that prepares students for positions in local, state, or federal government, quasi-governmental service, or the nonprofit (including philanthropic) arena. It broadens students' comprehension of the economic, environmental, political, and social context in which the public servant works. The course of study requires completion of

#### Requirements

- MPA core requirements
- experiential requirement
- concentration requirements
- sufficient electives and/or prior professional experience credit to total 48 credit hours

The curriculum of this program as contained in the core requirements encompasses preparation in a broad range of skills relevant to the operation of public or nonprofit agencies. It is based on the academic disciplines but not limited to any one. It is also problem-oriented, bringing the disciplines to bear on critical social, environmental, economic, and administrative issues.

Although the environment of public service is diverse and changing, effectiveness in that environment requires the development of special skills attained through detailed study in a chosen field of concentration. The fields of concentration span the variety of professional specialties found in public service. Thus, the program provides expertise in the core requirement and in a specific concentration area, as well as a general working knowledge of public affairs.

The M.P.A. program is fully accredited by the National Association of Schools of Public Affairs and Administration (NASPAA).

### Fields of Concentration

Concentrations give students focused educational experiences in substantive areas of interest.

Concentrations offered on the Bloomington campus are:

- Economic Development
- Energy
- Environmental Policy and Natural Resource Management
- Health Policy
- Information Systems
- International Development
- Local Government Management
- Nonprofit Management
- Policy Analysis
- Public Financial Administration
- Public Management
- Sustainability and Sustainable Development
- Specialized

### General Elective Courses

Graduate courses, or undergraduate courses approved for graduate credit, may be used to complete the overall degree requirement of 48 credit hours.

### Accelerated Master of Public Affairs

This program allows the School of Public and Environmental Affairs' top undergraduates to complete both their undergraduate and graduate degree in five years. To be considered for this program a student must have earned a minimum GPA of 3.5, completed 96 undergraduate credit hours, and satisfied all general-education and School of Public and Environmental Affairs undergraduate core requirements. Because of the specialized nature of this program, potential applicants should contact the Bloomington undergraduate and graduate program director for details.

### Degree Requirements

(48 credit hours) The core requirements of the M.P.A. degree consist of 18 credit hours of work in six courses. Each student must also complete the requirements of (at least) one concentration.

The experiential requirement ensures that each graduate of the M.P.A. program has gained insight into the world of public service by way of an experience outside the classroom. This experience may or may not involve the accumulation of credit hours toward the degree.

The remaining credit hours necessary for graduation, if any, are general electives that can be used to add breadth to a student's program; to further explore a field of concentration; or to enhance skills in foreign languages, quantitative tools, or administrative techniques.

### Core Requirements

(18 credit hours) The M.P.A. core is designed to ensure that each student acquires both the prerequisite analytical skills and an understanding of policy issues and governmental processes that compose the environment within which graduates will pursue their careers.

### Required Courses

SPEA-F 560	Public Finance and Budgeting	(3 cr.)
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SPEA-V 502	Public Management	(3 cr.)
SPEA-V 506	Statistical Analysis for Effective Decision Making	(3 cr.)
SPEA-V 517	Public Management Economics	(3 cr.)
SPEA-V 540	Law and Public Affairs	(3 cr.)
SPEA-V 600	Capstone in Public and Environmental Affairs	(3 cr.)
<b>OR</b>		
*GLOBASE	Capstone in Global Business and Social Enterprise	(3 cr.)

\*Please note only second year students can count GLOBASE as a capstone.

Extremely well-prepared applicants may petition the program director to waive one or more of the core requirements on the basis of advanced course work done elsewhere. Students may be exempted on the basis of satisfactory equivalent course work or by examination. Credit hours waived from the core add to the electives a student may use. Students requesting course waivers should contact the appropriate graduate program director for requirements and guidelines.

### Experiential Requirements

Each M.P.A. student must obtain professionally relevant experience through one of the following options: an approved internship (0-6 credit hours); SPEA-V 590 Research in Public Affairs; SPEA-V 601 Workshop in Public Affairs; or the award of prior professional experience credit.

### Prior Professional Experience Credit

The M.P.A. Program Director of the School of Public and Environmental Affairs may grant up to 12 credit hours toward the M.P.A. degree for students who have had significant policy-level work experience in their backgrounds. In general, credit requires work experience above the entry level that involves some independent managerial, analytic, or scientific responsibility. Credit will be granted for work experience gained until initial matriculation in the program according to the following guidelines.

- To receive 3 credit hours, a student must have a minimum of one year's technical, administrative, or policy-level work experience with a government, nonprofit, or private agency.
- 6 credit hours will be awarded for four years of managerial experience in directing programs, preparing budgets, and making decisions on organizational or staff development or for four years of professional experience in policy analysis or planning.
- Those with four or more years of executive assignment may be awarded 9 to 12 credit hours. Applicants must have had responsibility for supervision of high-level staff, budget preparation,

and organizational control of public agencies, or executive responsibility for policy analysis or planning.

- Students are eligible to apply for prior professional experience credit up to the completion of 24 credit hours, which usually occurs before the close of their second semester of M.P.A. graduate study. Applicants may appeal the initial professional credit decision by submitting a request, in writing, for reconsideration and providing additional information to the appropriate program or campus director.
- Determination of professional credit is made separately from decisions about transfer of credit. Under no circumstances will the prior professional experience credit and transfer credit total more than 21 credit hours of the 48 required for the M.P.A. degree. Students receiving prior professional experience credit should carefully plan the balance of their program with a faculty advisor.

**Concentration Requirements**

(15–24 credit hours) Concentrations give students educational experiences in a substantive area of interest. The course of study in each concentration area is determined in conjunction with an advisor. Up to 3 credit hours of the concentration may be taken in V 585 Practicum in Public Affairs, if approved in advance by an advisor.

Concentration requirements may be waived on the same basis as core requirements. Consult with an advisor about course prerequisites.

**Economic Development**

(18 credit hours) The economic development concentration prepares students for positions in economic development at the city, county, and state levels.

**Required Courses (9 credit hours)**

SPEA-D 669	Economic Development, Globalization, and Entrepreneurship	(3 cr.)
SPEA-L 622	Seminar in Urban Economic Development	(3 cr.)
SPEA-P 507	Data Analysis and Modeling for Public Affairs	(3 cr.)

**Electives (9 credit hours)**

Select three of the following courses:

SPEA-D 576	Approaches to Development	(3 cr.)
SPEA-D 578	Introduction to Comparative and International Affairs	(3 cr.)
SPEA-F 609	Seminar in Revenue Theory and Administration	(3 cr.)
SPEA-F 610	Seminar in Government Budget and Program Analysis	(3 cr.)

SPEA-F 667	Seminar in Public Capital and Debt Theory	(3 cr.)
SPEA-I 516	Public Management Information Systems	(3 cr.)
SPEA-L 563	The Planning Process	(3 cr.)
SPEA-L 564	Local Government Management	(3 cr.)
SPEA-L 568	Management of Local Government Services	(3 cr.)
SPEA-M 602	Strategic Management for Public and Nonprofit Organizations	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)
SPEA-S 596	Sustainable Development	(3 cr.)

Or other relevant SPEA courses with the approval of an economic development concentration advisor. At least one elective must be chosen from the above list.

**Energy**

(18 credit hours) The energy concentration provides students an educational experience in topics associated with energy production, distribution, and use, using an interdisciplinary approach in science, technology, and public policy. This concentration allows flexibility in the choice of courses used to meet the concentration requirements and to meet each student’s professional goals.

**Required Courses (6 credit hours)**

SPEA-E 574	Energy Systems	(3 cr.)
SPEA-R 674	Energy Economics and Policy	(3 cr.)

**Electives (12 credit hours)**

Students select a mixture of science and policy courses related to energy in accordance to professional goals. No double counting with program core course is permitted. At least two courses must be taken from each group.

**Natural Science Elective Group (6 credit hours)**

SPEA-E 503	Natural Gas: Technical and Policy Challenges	(3 cr.)
SPEA-E 515	Fundamentals of Air Pollution	(3 cr.)
SPEA-E 518	Vector-based Geographic Information Systems	(3 cr.)
SPEA-E 529	Application of Geographic	(3 cr.)

	Information Systems	
SPEA-E 536	Environmental Chemistry	(3 cr.)
GEOG-G 532	Physical Climatology	(3 cr.)
GEOL-G 571	Principles of Petroleum Geology	(3 cr.)
GEOL-G 576	Climate Change	(3 cr.)
GEOL-G 587	Organic Geochemistry	(3 cr.)

**Economics, Public Policy and Law-Related Elective Group (6 credit hours)**

SPEA-E 501/X 511	Human Behavior and Energy Consumption	(3 cr.)
SPEA-E 535	International Environmental Policy	(3 cr.)
SPEA-E 590	Energy Policy from a Nation-State Perspective	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-R 533/ LAW-B 675	Public Natural Resources Law	(3 cr.)
SPEA-R 625	Environmental Economics and Policy	(3 cr.)
SPEA-R 643	Natural Resource Management and Policy	(3 cr.)
SPEA-R 645	Environmental Law	(3 cr.)
SPEA-S 596	Sustainable Development	(3 cr.)
SPEA-V 550/ LAW-L 644	Energy Law and Policy	(3 cr.)
SPEA-V 550/ LAW-L 660	Climate Law and Policy	(3 cr.)

**Environmental Policy and Natural Resource Management**

(MPA: 24 credit hours, MPA-MSES: 18 credit hours) The environmental policy and natural resource management concentration integrates public policy and environmental science perspectives covering a range of topics including the economic analysis of natural resource utilization and allocation. Students may not use MPA core courses to fulfill concentration requirements.

**Environmental Law Course (3 credit hours)**

SPEA-R 645	Environmental Law	(3 cr.)
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**Economics and Policy Course (3 credit hours)**

In consultation with your advisor, select one of the following courses.

SPEA-R 625	Environmental Economics and Policy	(3 cr.)
SPEA-S 596	Sustainable Development	(3 cr.)

**Analysis and Skills Courses (6 credit hours)**

In consultation with a concentration advisor, select two MPA **or** one MPA-MSES of the following courses.

SPEA-E 529	Application of Geographic Information Systems	(3 cr.)
SPEA-E 560	Environmental Risk Analysis	(3 cr.)
SPEA-M 547	Negotiation and Alternative Dispute Resolution for Public Affairs	(3 cr.)
SPEA-P 507	Data Analysis and Modeling for Public Affairs	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)

**Context Courses (6 credit hours)**

Note: MPA students with a concentration in Environmental Policy and Natural Resource Management who want to take SPEA-E 543 must take both SPEA-V 502 and SPEA-E 543.

In consultation with a concentration advisor, select two MPA **or** one MPA-MSES of the following courses.

SPEA-E 535	International Environmental Policy	(3 cr.)
SPEA-E 543	Environmental Management (cannot count for dual degree)	(3 cr.)
SPEA-R 590	Energy Policy from a Nation-State Perspective	(3 cr.)
SPEA-R 643	Natural Resources Management and Policy	(3 cr.)
SPEA-V 550	Environmental and Natural Resource Policy Implementation	(3 cr.)
SPEA-V 550	Domestic Environmental Policy	(3 cr.)
SPEA-V 550	Water Policy and Economics	(3 cr.)

In consultation with a concentration advisor, select any two courses from the following lists. Students who are not in the dual-degree program are strongly encouraged to take one of the foundational courses that matches their area of interest (applied ecology, environmental chemistry,

or environmental toxicology), unless they have previous environmental-science training in these areas.

### Science Courses (6 credit hours)

Take two courses from the following lists (selections need not both come from the same list).

Natural Sciences:

SPEA-E 522	Urban Forestry	(3 cr.)
SPEA-E 527	Applied Ecology (foundation course, cannot count for dual degree)	(3 cr.)
SPEA-E 528	Forest Ecology and Management	(3 cr.)
SPEA-E 540	Wetlands Ecology and Management	(3 cr.)
SPEA-E 545	Lake and Watershed Management	(3 cr.)
SPEA-E 546	Stream Ecology	(3 cr.)
SPEA-E 555	Best Management Practices for Healthy Urban Watersheds	(3 cr.)
SPEA-E 555	Urban Ecology	(3 cr.)
SPEA-E 556	Limnology	(4 cr.)
SPEA-E 557	Conservation Biology	(3 cr.)
SPEA-E 591	Climate Change Impacts on Natural Resources	(3 cr.)

Physical Sciences:

SPEA-E 515	Fundamentals of Air Pollution	(3 cr.)
SPEA-E 536	Environmental Chemistry (foundation course, cannot count for dual degree)	(3 cr.)
SPEA-E 539	Aquatic Chemistry	(3 cr.)
SPEA-E 542	Hazardous Materials	(3 cr.)
SPEA-E 544	Subsurface Microbiology & Remediation	(3 cr.)
SPEA-E 552	Environmental Engineering (cannot count for dual degree)	(3 cr.)
SPEA-E 554	Groundwater Flow Modeling	(3 cr.)
SPEA-E 555/V 550	Toxicology for the 21st Century	(3 cr.)
SPEA-E 562	Solid and Hazardous Waste Management	(3 cr.)
SPEA-E 564	Organic Pollutants:	(3 cr.)

	Environmental Chemistry and Fate	
SPEA-E 570	Environmental Soil Science	(3 cr.)
SPEA-E 574	Energy Systems	(3 cr.)

### Health Policy

(18 credit hours) The Health Policy concentration is designed to provide students with a strong grounding that prepares them for employment in the growing sectors of health policy, health care and life sciences management, and international health sectors, as well as for pursuing Ph.D. programs in health policy.

### Required Courses (9 credit hours)

The following courses are required:

SPEA-H 549	Health Policy	(3 cr.)
SPEA-P 507	Data Analysis and Modeling for Public Affairs	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)

### Economics, Finance and Regulation Components (9 credit hours)

Three of the following courses, of which at least two must be from SPEA.

SPEA-H 524	Health Industry Regulation	(3 cr.)
SPEA-H 525	Health Economics	(3 cr.)
SPEA-H 526	Healthcare Finance	(3 cr.)
SPEA-H 527	International Healthcare Systems	(3 cr.)
SPEA-N 557	Proposal Development and Grant Management	(3 cr.)
BUS-X 519 or BUS-X 519 and BUS-X 518	BUS-X 519 Business of Life Sciences: Value Chain or BUS-X 519 Life Sciences from Research to Patient and BUS-X 518 Life Science Global Trends	(3 cr.)
SPH-P 685	Public Health Policy and Politics in the U.S.	(3 cr.)

### Information Systems

(18 credit hours) The information systems (IS) concentration prepares students for entry-level and mid-career positions—such as systems analysts, consultants, Webmasters, and database managers—in the exciting, evolving, and rapidly growing fields of computing and communication technologies as they apply to public organizations. The IS concentration builds on a solid core of three courses and provides the flexibility to add three

more electives from a wide range of course offerings. Students are encouraged to combine the IS concentration with other concentrations to strengthen their technical skills in a variety of applied areas.

### Required Courses (9 credit hours)

The following courses are required:

SPEA-I 516	Public Management Information Systems	(3 cr.)
SPEA-I 519	Database Management Systems	(3 cr.)
SPEA-E 518	Vector-based Geographic Information Systems	(3 cr.)

### Electives (9 credit hours)

Three courses from the following information systems application groups. (Note: Two of the courses must be from group A, B, or C.)

#### Group A: Geographic Information Systems

SPEA-E 529	Application of Geographic Information Systems	(3 cr.)
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#### Group B: Decision Support and Analysis

SPEA-E 560	Environmental Risk Analysis	(3 cr.)
SPEA-P 507	Data Analysis and Modeling for Public Affairs	(3 cr.)
SPEA-P 539	Management Science for Public Affairs	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)

#### Group C: Design and Management of Information Systems

SPEA-I 611	Design of Information Systems	(3 cr.)
SPEA-M 602	Strategic Management of Public and Nonprofit Organizations	(3 cr.)

#### Group D: Networking and Telecommunications

BUS-S 515	Foundations of Business Telecommunications	(3 cr.)
ILS-Z 525	Government Information	(3 cr.)

ILS-Z 532	Information Architecture for the Web	(3 cr.)
ILS-Z 643	The Information Industry	

### Group E: Additional Option

Graduate courses that address issues in information technology, such as programming and the digital economy, are offered in other units such as the Department of Computer Science, the School of Informatics, the Kelley School of Business, and the School of Library and Information Science. Students may elect to take one of these electives with the approval of a faculty advisor.

### International Development

(18 credit hours) The International Development concentration in the Master of Public Affairs is designed to provide students with a policy-focused understanding of international development, and will introduce students to topics such as economic programming and planning, political economy, conflict and post-conflict recovery, sustainable development, international organizations, governance and business activities.

### Required Courses (9 credit hours)

The following courses are required:

SPEA-D 573	Development Economics	(3 cr.)
SPEA-D 578	Introduction to Comparative and International Affairs	(3 cr.)
SPEA-D 669	Economic Development, Globalization and Entrepreneurship	(3 cr.)

### Electives (9 credit hours)

In consultation with a concentration advisor, students choose three electives where at least one course (3 credit hours) is from list A (Methods) and the remaining 6 credit hours are from List B (other electives).

#### Group A: Methods

SPEA-E 518	Vector-based Geographic Information Systems	(3 cr.)
SPEA-P 507	Data Analysis and Modeling for Public Affairs	(3 cr.)
SPEA-P 541	Cost-Benefit Analysis	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)

A student may also choose to fulfill the List A requirement with a graduate level language or area studies course.

#### Group B: Other Electives

SPEA-D 576	Approaches to Development	(3 cr.)
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SPEA-D 577	International Economic Strategy and Development Policy	(3 cr.)
SPEA-D 583	Conflict and Development	(3 cr.)
SPEA-E 535	International Environmental Policy	(3 cr.)
SPEA-F 584	Tax Policy in Developing Countries	(3 cr.)
SPEA-M 575	Comparative Public Management and Administration	(3 cr.)
SPEA-M 654	Public Program Management and Contracting	(3 cr.)
SPEA-N 524	Civil Society in Comparative Perspective	(3 cr.)
SPEA-N 534	NGO Management for International Development	(3 cr.)
SPEA-S 596	Sustainable Development	(3 cr.)
SPEA-V 559	Principles and Practices of Social Entrepreneurship	(3 cr.)

### Local Government Management

(18 credit hours) The Local Government Management (LGM) concentration prepares students to lead the organizations and manage the services of municipal and county governments and to provide professional policy guidance to local elected officials. Students should consult with the faculty concentration advisor to choose the advanced electives best suited to their interests. Students may not use MPA core courses to fulfill concentration requirements.

### Required Courses (9 credit hours)

SPEA-L 564	Local Government Management	(3 cr.)
SPEA-L 568	Management of Local Government Services	(3 cr.)
SPEA-M 561	Public Human Resources Management	(3 cr.)

### Advanced Electives (9 credit hours)

In consultation with a concentration advisor, select **three** of the following courses or other graduate courses approved as substitutions.

AADM-Y 504	Arts Administration in the Public and Private Sectors	(3 cr.)
SPEA-F 610	Seminar in Government Budget and Program Analysis	(3 cr.)

SPEA-I 516	Public Management Information Systems	(3 cr.)
SPEA-L 563	The Planning Process	(3 cr.)
SPEA-L 622	Seminar in Urban Economic Development	(3 cr.)
SPEA-M 518	Intergovernmental Systems Management	(3 cr.)
SPEA-M 547	Negotiation and Dispute Resolution for Public Affairs	(3 cr.)
SPEA-M 570	Public Labor Relations	(3 cr.)
SPEA-M 602	Strategic Management in Public and Nonprofit Organizations	(3 cr.)
SPEA-M 652	Managing Workforce Diversity in Public Organization	(3 cr.)
SPEA-M 654	Public Program Management and Contracting	(3 cr.)
SPEA-N 523	Civil Society and Public Policy	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)
SPEA-S 515	Sustainable Communities	(3 cr.)
SPEA-V 530	Communications for Public and Nonprofit Affairs	(3 cr.)
SPEA-V 620	Seminar in Professional Ethics	(3 cr.)

### Nonprofit Management

(15 credit hours) The nonprofit management concentration prepares persons for leadership positions in not-for-profit organizations. The core requirements for the M.P.A. degree provide a strong management and policy base. The concentration offers students the opportunity to develop this base through not-for-profit applications. Most courses in the concentration address the unique features and practices of not-for-profit organizations or the policies affecting them. Supplementary courses available in the concentration offer management techniques helpful to nonprofit leaders.

### Required Courses (6 credit hours)

SPEA-N 521	The Nonprofit and Voluntary Sector	(3 cr.)
SPEA-N 525	Management in the Nonprofit Sector	(3 cr.)

**Electives (9 credit hours)****Elective Group I:**

At least 1 - 3 nonprofit management courses may count toward the three electives.

SPEA-F 526	Financial Management for Nonprofit Organizations	(3 cr.)
SPEA-M 504	Public Organizations	(3 cr.)
SPEA-M 602	Strategic Management of Public and Nonprofit Organizations	(3 cr.)
SPEA-N 522	Human Resource Management in Nonprofit Organizations	(3 cr.)
SPEA-N 523	Civil Society and Public Policy	(3 cr.)
SPEA-N 524	Civil Society in Comparative Perspective	(3 cr.)
SPEA-N 534	NGO Management for International Development	(3 cr.)
SPEA-N 557	Proposal Development and Grant Administration	(3 cr.)
SPEA-N 558	Fund Development for Nonprofits	(3 cr.)
SPEA-V 530	Communications for Public and Nonprofit Affairs	(3 cr.)
SPEA-V 559	Principles and Practices of Social Entrepreneurship	(3 cr.)
LAW-B 569	Nonprofit Organizations	(3 cr.)
LAW-B 761	Law and Philanthropy	(3 cr.)

**Elective Group II:**

Up to two additional management skills courses may count toward three electives with approval of a concentration advisor. Substitutions can be made with a faculty advisor's approval.

SPEA-I 516	Public Management Information Systems	(3 cr.)
SPEA-M 547	Negotiation and Dispute Resolution for Public Affairs	(3 cr.)
SPEA-M 569	Managing Interpersonal Relations	(3 cr.)
SPEA-M 652	Managing Work Force	(3 cr.)

	Diversity in Public Organizations	
SPEA-M 654	Public Program Management and Contracting	(3 cr.)
SPEA-M 662	Seminar in Accountability and Performance	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)

**Elective Group III:**

One course in a nonprofit area may count toward the three electives with the approval of a concentration advisor.

AADM-Y 511	Performing Arts Center Management	(3 cr.)
AADM-Y 525	Museum Management	(3 cr.)
AADM-Y 559	Public Policy and the Arts	(3 cr.)
SPEA-D 573	Development Economics	(3 cr.)
SPEA-D 576	Approaches to Development	(3 cr.)
SPEA-D 577	International Economics Strategies and Trade Policies	(3 cr.)
SPEA-D 669	Economic Development, Globalization and Entrepreneurship	(3 cr.)
SPEA-L 568	Management of Local Government Services	(3 cr.)
SPEA-L 622	Seminar in Urban Economic Development	(3 cr.)
SPEA-S 515	Sustainable Communities	(3 cr.)

**Policy Analysis**

(18 credit hours) The policy analysis concentration emphasizes substantive applications of management science/operations research, statistical analysis, cost-benefit analysis, program evaluation, and related techniques and approaches to public policy issues and decisions.

**Policy Analysis Skills (9 credit hours)**

Required course:

SPEA-P 507	Data Analysis and Modeling for Public Affairs	(3 cr.)
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Take a minimum of two of the following three courses:

SPEA-P 539	Management Science for Public Affairs	(3 cr.)
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SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)

Note: Should the student decide to take P 539, P 541, and P 562, the third course can be counted as one of the three public courses required below.

### Policy Field (9 credit hours)

Select three public policy courses with the permission of a concentration advisor.

Courses that may be chosen include, but are not limited to, the following:

AADM-Y 500	Cultural Districts and Local Arts Policy	(3 cr.)
AADM-Y 559	Public Policy and Arts	(3 cr.)
SPEA-D 573	Development Economics	(3 cr.)
SPEA-D 577	International Economic Strategies and Trade Policy	(3 cr.)
SPEA-D 583	Conflict and Development	(3 cr.)
SPEA-D 669	Economic Development, Globalization, and Entrepreneurship	(3 cr.)
SPEA-E 535	International Environmental Policy	(3 cr.)
SPEA-E 574	Energy Systems	(3 cr.)
SPEA-F 526	Financial Management for Nonprofit Organizations	(3 cr.)
SPEA-F 584	Tax Policy in Developing Countries	(3 cr.)
SPEA-F 609	Seminar in Public Revenue Theory and Administration	(3 cr.)
SPEA-F 610	Seminar in Government Budget and Program Analysis	(3 cr.)
SPEA-F 667	Seminar in Public Capital and Debt Theory	(3 cr.)
SPEA-H 525	Health Economics	(3 cr.)
SPEA-H 549	Health Policy	(3 cr.)
SPEA-L 568	Management of Local Government Services	(3 cr.)
SPEA-L 622	Seminar in Urban Economic Development	(3 cr.)

SPEA-M 547	Negotiation and Dispute Resolution for Public Affairs	(3 cr.)
SPEA-N 521	The Nonprofit and Voluntary Sector	(3 cr.)
SPEA-N 523	Civil Society and Public Policy	(3 cr.)
SPEA-P 539	Management Science for Public Affairs	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)
SPEA-R 625	Environmental Economics and Policy	(3 cr.)
SPEA-R 643	Natural Resource Management and Policy	(3 cr.)
SPEA-R 645	Environmental Law	(3 cr.)
SPEA-R 674	Energy, Economics, and Policy	(3 cr.)
SPEA-V 550	Poverty and Social Welfare Policy	(3 cr.)
SPEA-V 559	Principles and Practices of Social Entrepreneurship	(3 cr.)
SPEA-V 640	Law, Public Management, and Public Policy	(3 cr.)
SPEA-X 511/E 501	Human Behavior and Energy Consumption	(3 cr.)

### Public Financial Administration

(18 credit hours) Courses in this concentration develop technical skills necessary for budget analysis, preparation, and operation; analysis and application of tax policy; and public financial planning.

### Required Courses (9 credit hours)

Three of the following courses:

SPEA-F 609	Seminar in Revenue Theory and Administration	(3 cr.)
SPEA-F 610	Seminar in Government Budget and Program Analysis	(3 cr.)
SPEA-F 667	Seminar in Public Capital and Debt Theory	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)

### One of the following courses:

SPEA-F 542	Governmental Financial Accounting and Reporting	(3 cr.)
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SPEA-P 541	Benefit Cost Analysis	(3 cr.)
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### Electives

Two of the following courses or other graduate courses approved by a concentration advisor as equivalent substitutions:

SPEA-F 542	Governmental Financial Accounting and Reporting	(3 cr.)
SPEA-I 516	Public Management Information Systems	(3 cr.)
SPEA-P 507	Data Analysis and Modeling for Public Affairs	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)
SPEA-F 666	Public Revenue	(3 cr.)

### Public Management

(15 credit hours) The public management concentration is designed to teach students to manage and lead using the knowledge, systems, skills, and tools necessary to effectively pursue the missions of public organizations. Upon completing the concentration requirements, students will understand the political, legal, and social context in which public policies are adopted, implemented and evaluated; the role of public bureaucracy in a democratic society; the goals, structures, processes and behavior observed within public organizations; and the core administrative functions performed by public managers and employees.

### Required Courses (9 credit hours)

In consultation with a concentration advisor, select at least three of the following courses:

SPEA-M 561	Public Human Resource Management	(3 cr.)
SPEA-M 602	Strategic Management of Public and Nonprofit Organizations	(3 cr.)
SPEA-M 654	Public Program Management and Contracting	(3 cr.)
SPEA-M 662	Seminar in Accountability and Performance	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)

### Electives (6 credit hours)

In consultation with a concentration advisor, select two of the following courses:

SPEA-F 610	Seminar in Government	(3 cr.)
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SPEA-I 516	Budget and Program Analysis Public Management Information Systems	(3 cr.)
SPEA-L 568	Management of Local Government Services	(3 cr.)
SPEA-M 504	Public Organizations	(3 cr.)
SPEA-M 518	Intergovernmental Systems Management	(3 cr.)
SPEA-M 547	Negotiation and Dispute Resolution for Public Affairs	(3 cr.)
SPEA-M 570	Public Sector Labor Relations	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-V 640	Law, Public Management, and Public Policy	(3 cr.)

### Sustainability and Sustainable Development

(18 credit hours) The sustainable development concentration focuses on the balancing of human needs with the protection of the natural and social environments. Components of a sustainable development strategy encompass environmental, economic, social, and political elements.

### Required Courses (6 credit hours)

Choose two of the following courses:

SPEA-S 515	Sustainable Communities	(3 cr.)
SPEA-S 596	Sustainable Development	(3 cr.)
SPEA-V 550	Sustainability in a Tri-Sectoral World	(3 cr.)

### Context for Sustainability (6 credit hours):

In consultation with a concentration advisor, select two courses from one of the two areas: Development, Policy, and Entrepreneurship, or Natural Environment. Students are encouraged to select courses that lead to expertise in a particular context. (Note: The third concentration core course can be substituted for one of these context courses).

### Development, Policy and Entrepreneurship

SPEA-D 576	Approaches to Development	(3 cr.)
SPEA-D 669	Economic Development, Globalization, and Entrepreneurship	(3 cr.)
SPEA-E 535	International Environmental Policy	(3 cr.)

SPEA-L 622	Seminar in Urban Economic Development	(3 cr.)
SPEA-R 625	Environmental Economics and Policy	(3 cr.)
SPEA-R 643	Natural Resource Management and Policy	(3 cr.)
SPEA-R 674	Energy Economics and Policy	(3 cr.)
SPEA-V 527	Urban Sustainability ( <i>This course is offered at IUPUI</i> )	(3 cr.)
SPEA-V 559	Principles and Practices of Social Entrepreneurship	(3 cr.)
SPEA-X 511/E 501	Human Behavior and Energy Consumption	(3 cr.)

### Natural Environment:

SPEA-E 460	Fisheries and Wildlife Management	(3 cr.)
SPEA-E 522	Urban Forest Management	(3 cr.)
SPEA-E 528	Forest Ecology and Management	(3 cr.)
SPEA-E 534	Restoration Ecology	(3 cr.)
SPEA-E 545	Lake and Watershed Management	(3 cr.)
SPEA-E 555	Urban Ecology	(3 cr.)
SPEA-E 557	Conservation Biology	(3 cr.)
SPEA-E 591/R 591	Climate Change Impacts to the Natural Environment	(3 cr.)

### Analytical Tools: (6 credit hours)

Select two of the following courses:

SPEA-E 529	Application of Geographical Information Systems	(3 cr.)
SPEA-M 547	Negotiation and Alternative Dispute Resolution for Public Affairs	(3 cr.)
SPEA-P 507	Data Analysis & Modeling for Public Affairs	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)

### Specialized

(18 credit hours) In consultation with advisors, students may design curricula that anticipate their career and educational goals and reflect their background and training. Specialized concentrations must be approved by the student's faculty advisor and the appropriate faculty program director to ensure high standards of rigor, depth, and breadth. Specialized concentrations must be declared within the first 24 credit hours of a student's program

## Master of Public Affairs Dual Degree Programs

Master of Public Affairs–Master of Science in Environmental Science (M.P.A.–M.S.E.S.)

Master of Public Affairs–Doctor of Jurisprudence (M.P.A.–J.D.)

Other Dual M.P.A. Degree Programs

### Master of Public Affairs–Master of Science in Environmental Science

This combined master's program is a 60-credit hour program that gives the student more depth and breadth than is possible in a single degree. M.P.A. and M.S.E.S. degrees are awarded concurrently after the student has completed the requirements for both degrees.

### Application and Admission

The student must apply to and be accepted by both the Master of Public Affairs program and the Master of Science in Environmental Science program. The normal criteria for admission to each program apply.

### Program Requirements

(60 credit hours) The combined M.P.A.–M.S.E.S. program requires a minimum of 60 credit hours distributed among four components: environmental science core, public affairs core, environmental science and policy concentration, and professional experience.

### Public Affairs Core

#### Required Courses (15 credit hours)

SPEA-E 543	Environmental Management	(3 cr.)
SPEA-F 560	Public Finance and Budgeting	(3 cr.)
SPEA-V 506	Statistical Analysis for Effective Decision Making	(3 cr.)
<b>OR</b>		
SPEA-E 538	Statistics for Environmental Science	(3 cr.)
SPEA-V 517	Public Management Economics	(3 cr.)
SPEA-V 540	Law and Public Affairs	(3 cr.)

### Environmental Science Core Competencies

Each Student should demonstrate a competency in the following areas of environmental science: mathematics, statistics, chemistry, engineering principles, and ecology. The selection of courses may vary according to the

students background. Some or all of the following course categories may be appropriate to be determined in consultation with the gatekeepers for each course category.

### Required Courses (12 credit hours)

SPEA-E 526	Applied Mathematics for Environmental Science	(3 cr.)
SPEA-E 527	Applied Ecology	(3 cr.)
SPEA-E 536	Environmental Chemistry	(3 cr.)
SPEA-E 552	Environmental Engineering	(3 cr.)

### Economics, Policy and Law Core Competencies (6 credit hours)

Each student should demonstrate a competency in the following areas of environmental management. The selection of courses may vary according to the student's background, concentration and professional objectives. Courses should be selected in consultation with a concentration advisor.

SPEA-E 535	International Environmental Policy	(3 cr.)
SPEA-E 543	Environmental Management	(3 cr.)
SPEA-R 625	Environmental Economics and Policy	(3 cr.)
SPEA-R 643	Natural Resource Management and Policy	(3 cr.)
SPEA-R 645	Environmental Law	(3 cr.)
SPEA-S 596	Sustainable Development	(3 cr.)
SPEA-V 517	Public Management Economics	(3 cr.)

### Tool Skill Courses (3 credit hours)

Students are encouraged to acquire competency in analytical methods by focusing on tool skills appropriate to their concentration. Courses should be selected in consultation with a concentration advisor.

SPEA-E 512	Risk Communication	(3 cr.)
SPEA-E 518	Vector-based Geographic Information Systems	(3 cr.)
SPEA-E 529	Application of Geographic Information Systems	(3 cr.)
SPEA-E 555	GIS for Managers	(3 cr.)
SPEA-E 560	Environmental Risk Analysis	(3 cr.)

SPEA-M 547	Negotiation and Dispute Resolution for Public Affairs	(3 cr.)
SPEA-P 507	Data Analysis and Modeling for Public Affairs	(3 cr.)
SPEA-P 539	Management Science for Public Affairs	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)

### Capstone

#### Required Course (3 credit hours)

Choose one of the following courses:

SPEA-E 546	Stream Ecology	(3 cr.)
SPEA-E 560	Environmental Risk Analysis	(3 cr.)
SPEA-E 625	Research in Environmental Science	(3 cr.)
SPEA-V 600	Capstone in Public and Environmental Affairs	(3 cr.)
*GLOBASE	Capstone in Global Business and Social Enterprise	(3 cr.)

\*Please note only second year students can count GLOBASE as a capstone. Students must fulfill the professional presentation requirement.

### Program Options

Dual degree students can pursue one of six concentration options.

#### 1. Environmental Management Concentration (24 credit hours)

##### Required Courses

Four of the following courses:

SPEA-E 515	Fundamentals of Air Pollution	(3 cr.)
SPEA-E 518	Vector-based Geographic Information Systems	(3 cr.)
SPEA-E 520	Environmental Toxicology or SPEA-E 410 Introduction to Environmental Toxicology	(3 cr.)
SPEA-E 539	Aquatic Chemistry	(3 cr.)
SPEA-E 542	Hazardous Materials	(3 cr.)
SPEA-E 545	Lake and Watershed Management	(3 cr.)

SPEA-E 554	Groundwater Flow Modeling	(3 cr.)
SPEA-E 555	Water Quality Modeling	(3 cr.)
SPEA-E 562	Solid and Hazardous Waste Management	(3 cr.)

Four of the following courses:

SPEA-E 512	Risk Communication	(3 cr.)
SPEA-E 555	Toxicology in the 21st Century	(3 cr.)
SPEA-I 516	Public Information Management Systems	(3 cr.)
SPEA-P 507	Data Analysis and Modeling for Public Affairs	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)
SPEA-R 625	Environmental Economics and Policy	(3 cr.)
SPEA-R 643	Natural Resource Management and Policy	(3 cr.)
SPEA-R 645	Environmental Law	(3 cr.)

## 2. Environmental Systems Analysis and Modeling Concentration (27 credit hours)

### Required Courses

The following three courses:

SPEA-E 560	Environmental Risk Analysis	(3 cr.)
SPEA-P 507	Data Analysis and Modeling for Public Affairs	(3 cr.)
SPEA-P 539	Management Science for Public Affairs	(3 cr.)

Four of the following courses:

SPEA-E 515	Fundamentals of Air Pollution Control	(3 cr.)
SPEA-E 518	Vector-Based Geographic Information Systems	(3 cr.)
SPEA-E 529	Application of Geographic Information Systems	(3 cr.)
SPEA-E 539	Aquatic Chemistry	(3 cr.)
SPEA-E 554	Groundwater Flow Modeling	(3 cr.)

Two of the following courses:

SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-R 625	Environmental Economics and Policy	(3 cr.)
SPEA-R 643	Natural Resource Management and Policy	(3 cr.)

## 3. Energy Concentration

(24 credit hours)

### Required Courses (6 credit hours)

SPEA-E 574	Energy Systems	(3 cr.)
SPEA-R 674	Energy Economics and Policy	(3 cr.)

### Electives (18 credit hours)

Students seek a mixture of science and policy courses related to energy in accordance to professional goals. No double counting with program core course is permitted. At least two courses must be taken from each group.

Natural Science Elective Group:

SPEA-E 503	Natural Gas: Technical and Policy Challenges	(3 cr.)
SPEA-E 515	Fundamentals of Air Pollution	(3 cr.)
SPEA-E 518	Vector-based Geographic Information Systems	(3 cr.)
SPEA-E 529	Application of Geographic Information Systems	(3 cr.)
GEOG-G 532	Physical Climatology	(3 cr.)
GEOL-G 571	Principles of Petroleum Geology	(3 cr.)
GEOL-G 576	Climate Change	(3 cr.)
GEOL-G 587	Organic Geochemistry	(3 cr.)

Economics, Public Policy and Law Elective Group:

SPEA-E 501/X511	Human Behavior and Energy Consumption	(3 cr.)
SPEA-E 535	International Environment Policy	(3 cr.)
SPEA-E 590	Energy Issues: A Nation-State Perspective	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-R 533	Public Natural Resources	(3 cr.)

SPEA-R 625	Environmental Economics and Policy	(3 cr.)
SPEA-R 643	Natural Resource Management and Policy	(3 cr.)
SPEA-R 645	Environmental Law	(3 cr.)
SPEA-S 596	Sustainable Development	(3 cr.)
SPEA-V 550/ LAW-L 644	Energy Law and Policy	(3 cr.)
SPEA-V 550/ LAW-L 660	Climate Law and Policy	(3 cr.)

#### 4. Water Management Concentration (25 credit hours)

##### Required Courses (10 credit hours)

SPEA-E 545	Lake and Watershed Management	(3 cr.)
SPEA-E 556	Limnology	(4 cr.)
SPEA-R 531	Water Law	(3 cr.)

Water Science: (6 - 9 credit hours)

In consultation with a concentration advisor, select two or three of the following courses:

SPEA-E 460	Fisheries and Wildlife Management	(3 cr.)
SPEA-E 461	Fisheries and Wildlife Management Lab	(3 cr.)
SPEA-E 539	Aquatic Chemistry	(3 cr.)
SPEA-E 540	Wetlands Ecology and Management	(3 cr.)
SPEA-E 546	Stream Ecology	(3 cr.)
SPEA-E 554	Groundwater Flow Modeling	(3 cr.)
SPEA-E 555	BMP Design for Healthy Urban Watersheds	(3 cr.)
SPEA-E 555	Watershed Hydrology	(3 cr.)
SPEA-E 555	Water Quality Modeling	(3 cr.)

Policy and Administration: (6 - 9 credit hours)

In consultation with a concentration advisor, select two or three of the following courses:

SPEA-E 555	Water Policy and Economics	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-R 625	Environmental Economics and Policy	(3 cr.)
SPEA-R 643	Natural Resource Management and Policy	(3 cr.)

SPEA-X 511/E501	Human Behavior and Energy Consumption	(3 cr.)
GEOG-G 553	Water and Society	(3 cr.)

#### 5. Specialized Concentration

(21 credit hours) Select four M.S.E.S. courses from one of the listed M.S.E.S. concentrations and three M.P.A. courses from one of the listed M.P.A. concentrations.

#### 6. Any M.S.E.S. or M.P.A. Concentration

Any M.S.E.S. concentration plus 9 additional credit hours from a listed M.P.A. concentration

#### Or

Any M.P.A. concentration plus 12 additional credit hours from a listed M.S.E.S. concentration.

#### Experiential Requirement

Each double master's degree candidate must obtain professionally relevant experience through one of the following options: an approved internship (0-6 credit hours); advanced project; independent research/thesis; the award of prior professional experience credit; or an environmental science research project culminating in a master's thesis. Students are encouraged to discuss with faculty members the relative merits of their experiences according to individual career objectives.

#### Master of Public Affairs–Doctor of Jurisprudence

The combined Master of Public Affairs–Doctor of Jurisprudence program enables the student to take a four-year sequence of courses leading to both degrees.

#### Application and Admission

The applicant must have a bachelor's degree from an accredited institution of higher education and must apply separately to both the Mauer School of Law and the School of Public and Environmental Affairs.

If the applicant is admitted to only one school, the applicant is permitted to attend that school and is, of course, required to meet the graduation requirements of that school. It is recommended that the student apply to both schools simultaneously for the combined M.P.A.–J.D. program. It is possible, however, for a person already enrolled in the Mauer School of Law to apply for admission to the School of Public and Environmental Affairs up to the end of the second year of law study. It is also possible for a student enrolled in the School of Public and Environmental Affairs to seek admission to the Mauer School of Law up to the end of the first year of the M.P.A. course of study.

#### Academic Standing

Grade point averages in the Mauer School of Law and the School of Public and Environmental Affairs are computed separately. To continue in the program, the student must meet the academic standards in each school. A student failing in one school but meeting academic standards in the other may complete work for the degree in the school in which the student is able to meet the academic standards. Such completion must be according to the same conditions (credit hours, residency, etc.) required of regular (noncombination) degree candidates; that is, 82 credit hours in law and 48 credit hours in SPEA.

### School Residency

Students in the dual M.P.A.–J.D. program should enroll in courses through the School of Public and Environmental Affairs in the first year of the program and through the Mauer School of Law in the second year of the program. Alternatively, dual M.P.A.–J.D. students do have the option of enrolling in courses through the School of Law—Bloomington in the first year and in SPEA in the second year. In the third and fourth years, or until the program is completed, students should enroll through the school in which the majority of their credit hours reside in each enrollment period.

### Program Requirements

(115 credit hours)

#### Master of Public Affairs Requirements

(36 credit hours) Students are required to complete 36 credit hours of SPEA courses distributed among the M.P.A. core and a specialization area.

#### Required Courses (21 credit hours)

SPEA-F 560	Public Finance and Budgeting	(3 cr.)
SPEA-V 502	Public Management	(3 cr.)
SPEA-V 506	Statistical Analysis for Effective Decision Making	(3 cr.)
SPEA-V 517	Public Management Economics	(3 cr.)
SPEA-V 540	Law and Public Affairs	(3 cr.)
SPEA-V 600	Capstone in Public and Environmental Affairs	(3 cr.)
SPEA-V 640	Law, Public Management, and Public Policy	(3 cr.)

#### Specialization Area (15 credit hours)

The student chooses a field of specialization and develops a program of specialization courses in consultation with a SPEA faculty advisor.

#### Doctor of Jurisprudence Requirements

(79 credit hours) Students are required to complete 79 credit hours of law courses and to satisfy all requirements for the degree Doctor of Jurisprudence. For specific requirements, see the Mauer School of Law Bulletin.

#### Other Dual M.P.A. Degree Programs

In addition to dual degree programs with the Indiana University School of Law—Bloomington, the School of Public and Environmental Affairs collaborates with centers on area studies, other Indiana University Bloomington departments, and professional schools to deliver dual degree programs. SPEA's combined master's degree programs address the demand for specialists with expertise in policy, management, and science and the expertise and skill offered by the partner program. Candidates for the combined degree programs, excluding the program with the Mauer School of Law, complete the core requirements for the M.P.A. degree, additional course credits in a specialized concentration for a total of

36 credit hours in the School of Public and Environmental Affairs, plus the required courses of the participating dual program. In every case students must apply separately to and be accepted into both programs to participate in a dual degree program.

Dual degree students (other than the M.P.A.–J.D.) must complete:

- the core requirements for the M.P.A. and a specialized SPEA concentration (36 credit hours) to include:

#### Required Courses

SPEA-F 560	Public Finance and Budgeting	(3 cr.)
SPEA-V 502	Public Management	(3 cr.)
SPEA-V 506	Statistical Analysis for Effective Decision Making	(3 cr.)
SPEA-V 517	Public Management Economics	(3 cr.)
SPEA-V 540	Law and Public Affairs	(3 cr.)
SPEA-V 600	Capstone in Public and Environmental Affairs	(3 cr.)

#### Specialized Area

Students may design and develop a program of specialization courses in consultation with SPEA faculty advisors.

- The required courses of the other school or department for the dual degrees. To determine the requirements for participating dual degree departments or schools, refer to the section of the University Graduate School Bulletin about the participating unit or visit the appropriate Web page.

SPEA participates with the following units in the M.P.A. program:

Master of Public Affairs–Master of Arts in African American and African Diaspora Studies (M.P.A.–M.A.)  
[Department of African American and African Diaspora Studies](#)

Master of Public Affairs–Master of Arts in African Studies (M.P.A.–M.A.)  
[Department of African Studies](#)

Master of Public Affairs–Master of Arts in Central Eurasian Studies (M.P.A.–M.A.)  
[Department of Central Eurasian Studies](#)

Master of Public Affairs–Master of Arts in East Asian Studies (M.P.A.–M.A.)  
[Department of East Asian Languages and Cultures](#)

Master of Public Affairs–Master of Arts in Latin American and Caribbean Studies (M.P.A.–M.A.)  
[The Center for Latin American and Caribbean Studies](#)

Master of Public Affairs–Master of Informatics Science (M.P.A.–M.I.S.)

### [School of Informatics and Computing](#)

Master of Public Affairs–Master of Library Science (M.P.A.-M.L.S.)

### [School of Informatics and Computing](#)

Master of Public Affairs–Master of Arts in Near Eastern Languages and Cultures (M.P.A.–M.A.)

### [Near Eastern Languages and Cultures](#)

Master of Public Affairs–Master of Arts in Russian and East European Studies (M.P.A.–M.A.)

### [Russian and East European Institute](#)

Master of Public Affairs–Master of Arts in European Studies (M.P.A.–M.A.)

### [European Studies](#)

### **Master of Public Affairs–MAAA**

Students pursuing a dual Master of Public Affairs (Nonprofit Management Concentration) / Master of Arts in Arts Administration will complete the core requirements of the MPA, the Nonprofit Management concentration and the MAAA. When combined with electives and experiential requirements, students will take a total of 63 credit hours, which would ordinarily be completed with five semesters of course work plus an internship.

### **Application and Admission**

The student must apply to and be accepted by both the Master of Public Affairs program and the Master of Arts Administration program. The normal criteria for admission to each program apply.

### **MPA Core (15 credit hours)**

SPEA-F 560	Public Finance and Budgeting	(3 cr.)
SPEA-V 502	Public Management	(3 cr.)
SPEA-V 506	Statistical Analysis for Effective Decision Making	(3 cr.)
SPEA-V 517	Public Management Economics	(3 cr.)
SPEA-V 540	Law and Public Affairs	(3 cr.)

### **MAAA Core (18 credit hours)**

AADM-Y 502	Introduction to Arts Administration and Organizational Behavior	(3 cr.)
AADM-Y 511	Performing Arts Center Management	(3 cr.)
AADM-Y 525	Museum Management	(3 cr.)
AADM-Y 530	Audience Development and Marketing the Arts	(3 cr.)
AADM-Y 535	Arts Administration and the Cultural Sector	(3 cr.)

BUS-L 575	Legal Issues in the Arts	(3 cr.)
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### **Nonprofit Management (6 credit hours)**

SPEA-N 521	The Nonprofit and Voluntary Sector	(3 cr.)
SPEA-N 558	Fund Development for Nonprofits	(3 cr.)

### **Financial Management (3 credit hours)**

Choose one of the following:

SPEA-F 526	Financial Management for Nonprofit Organizations	(3 cr.)
AADM-Y 515	Financial Management for the Arts	(3 cr.)

### **Capstone (6 credit hours)**

Choose one of the following combinations:

SPEA-N 525 and SPEA-V 600	Management in the Nonprofit Sector (3 cr.) and Capstone in Public and Environmental Affairs (3 cr.)
<b>or</b>	
AADM-Y 504 and AADM-Y 650	Arts Organizations in the Public and Private Sectors (3 cr.) and Seminar in Arts Administration (3 cr.)

### **Electives (9 credit hours)**

Any graduate-level electives, chosen in consultation with a concentration advisor.

### **Experiential (6 credit hours)**

Students must complete three 50 hour arts management practicum projects, as well as a 280 hour internship. Students should contact their concentration advisor before beginning practicum work.

### **International Dual M.P.A. Degrees and Programs**

Since fall 2015, select SPEA graduate students have the opportunity to pursue concurrent masters degrees at SPEA and an international partner university. You must apply separately and be accepted by each program to participate in this opportunity.

### **South Korea: Seoul National University**

Complete a dual degree with Seoul National University (SNU). SNU's Graduate School of Public Administration (GSPA) and SPEA have joined together to offer dual MPA degrees from the two institutions. GSPA aims to educate high-level civil servants, cultivate new future leaders of civil society, and provide top-class executive programs for current leaders in the public and private sectors. GSPA is located in a beautiful mountainous region south of the Han River in southeast Seoul, a vibrant city of 12 million people

and site of South Korea's capital. The Seoul Metropolitan region is not only the thriving hub of South Korea, but a gateway to East Asia, within hours of Tokyo, Beijing, and Hong Kong.

### **Hong Kong: Hong Kong University**

Complete a dual degree with the University of Hong Kong (HKU). HKU's School of Social Sciences and the School of Public and Environmental Affairs (SPEA) have joined together to offer dual MPA degrees from the two institutions as an option for the mid-career professionals enrolled in HKU's Master's in Non-profit Management (MNM) program to simultaneously pursue a SPEA MPA degree. This option would also allow SPEA students to take courses for credit toward their MPA degrees at HKU. The joint program would require 66 hours of course credit, with 36 of these in SPEA courses and 6 meeting the requirements for SPEA experiential credit.

## **Master of Science in Environmental Science**

The Master of Science in Environmental Science (M.S.E.S.) program educates professionals who combine specialization in an area of environmental science with the analytical and policy skills necessary to apply that knowledge in a broader context. This degree program includes an experiential requirement, usually fulfilled by an internship, but also allows for a research focus culminating in a traditional master's thesis.

For students desiring more in-depth study in environmental science, the M.S.E.S. program is an excellent preparation for entry into the Ph.D. in Environmental Science program. Alternatively, students desiring more in-depth preparation in policy, law, or other related fields can combine their M.S.E.S. degree with a degree in Public Affairs (M.P.A.–M.S.E.S.), law (M.S.E.S.–J.D.), or a number of other disciplines in Biology, Chemistry, Geography, Geological Sciences, Journalism, or Physics.

### **Program Qualifications**

The M.S.E.S. Admissions Committee looks for applicants with an adequate background in quantitative and natural science subjects. As a minimum, you must have completed at least one (1) semester of Calculus and Chemistry with a lab. Familiarity with statistics and biology/ecology is considered desirable. An applicant who does not meet these minimum requirements may be admitted with a calculus and/or chemistry deficiency. In these cases, SPEA is interested in assisting you with options to address the deficiency(ies) that may have been identified by the M.S.E.S. Admissions Committee.

### **Entrance Requirements**

All students must have undergraduate coursework relevant to their intended area of focus in the M.S.E.S. degree program. Students are expected to have an adequate background in quantitative natural science subjects (e.g., mathematics, chemistry, and biology/ecology), which may vary according to the concentration the student selects.

### **Prior Professional Experience Credit**

The M.S.E.S. program director of the School of Public and Environmental Affairs may grant up to 12 credit hours toward the M.S.E.S. degree for students who have had significant technical or administrative work experience in their backgrounds. Credit will be granted for work experience gained until the end of the semester in which the student completes 24 credit hours according to the following guidelines.

- To receive 3 credit hours, a student must have a minimum of one year's technical or administrative work experience.
- 6 credit hours will be awarded for one to four years of experience in environmental science or environmental management.
- Those with four or more years of executive assignment may be awarded 9 to 12 credit hours. Applicants must have had responsibility for environmental science or environmental management.

- Students are eligible to apply for prior professional experience credit up to the completion of 24 credit hours, which usually occurs before the close of their second semester of M.S.E.S. graduate study. Applicants may appeal the initial professional credit decision by submitting a request, in writing, for reconsideration and providing additional information to the appropriate program or campus director.
- Determination of professional credit is made separately from decisions about transfer of credit. Under no circumstances will the prior professional experience credit and transfer credit total more than 21 hours. Students receiving prior professional experience credit should carefully plan the balance of their program with the Curriculum Advisory Committee.

### Accelerated Master of Science in Environmental Science

This program allows highly qualified undergraduate students in the School of Public and Environmental Affairs to complete both their undergraduate and graduate degrees in five years. To be considered for this program, a student must have earned a minimum GPA of 3.5 (3.0 for B.S.E.S), completed 96 undergraduate credit hours, and satisfied all general-education and SPEA undergraduate core requirements. Because of the specialized nature of this program, potential applicants should contact the M.S.E.S. program director for details.

#### Degree Requirements

The M.S.E.S. program requires 48 credit hours distributed among four sets of courses:

- science courses
- policy and management courses
- tool skill courses
- and an experiential requirement

There are no required courses per se; however, each student is expected to demonstrate several competencies, depending on his or her concentration. These competencies include relevant natural and physical sciences, economics, policy or law, and quantitative problem solving. A Curriculum Advisory Committee works with the student to ensure that these competencies are met and that the student is pursuing a suitable plan of study. This curriculum provides students with a general knowledge of environmental science, the tool skills to allow them to apply that knowledge, and a specialized area of expertise.

### Environmental Science Core Competencies Required courses (15 credit hours)

Each Student should demonstrate a competency in the following areas of environmental science: mathematics, statistics, chemistry, engineering principles, and ecology. The selection of courses may vary according to the students background. Some or all of the following course categories may be appropriate to be determined in consultation with the gatekeepers for each course category.

SPEA-E 526	Applied Mathematics for Environmental Science	(3 cr.)
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SPEA-E 527	Applied Ecology	(3 cr.)
SPEA-E 536	Environmental Chemistry	(3 cr.)
SPEA-E 538	Statistics for Environmental Science	(3 cr.)
<b>OR</b>		
SPEA-V 506	Statistical Analysis for Effective Decision Making	(3 cr.)
SPEA-E 552	Environmental Engineering	(3 cr.)

### Economics, Policy, and Law Core Competencies

(Typically 6–12 credit hours) Each student should demonstrate a competency in the following areas of environmental management. The selection of courses may vary according to the student's concentration and professional objectives. Courses should be selected in consultation with a faculty advisor.

SPEA-E 535	International Environmental Policy	(3 cr.)
SPEA-E 543	Environmental Management	(3 cr.)
SPEA-R 625	Environmental Economics and Policy	(3 cr.)
SPEA-R 643	Environmental Resource Management and Policy	(3 cr.)
SPEA-R 645	Environmental Law	(3 cr.)
SPEA-S 596	Sustainable Development	(3 cr.)
SPEA-V 517	Public Management Economics	(3 cr.)

### Tool Skill Courses

(Typically 3–9 credit hours) Students are encouraged to acquire competency in analytical methods by focusing on tool skills appropriate to their concentration. Courses should be selected in consultation with a faculty advisor.

SPEA-E 512	Risk Communication	(3 cr.)
SPEA-E 518	Vector-based Geographic Information Systems	(3 cr.)
SPEA-E 529	Applications of Geographic Information Systems	(3 cr.)
SPEA-E 555	GIS Managers	(3 cr.)
SPEA-E 560	Environmental Risk Analysis	(3 cr.)
SPEA-M 547	Negotiation and Dispute Resolution for Public Affairs	(3 cr.)

SPEA-P 507	Data Analysis and Modeling for Public Affairs	(3 cr.)
SPEA-P 539	Management Science for Public Affairs	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)

### Capstone Course

(3 credit hours) Each candidate for the M.S.E.S. degree should take a course during which they participate in a team to carry out an integrative project that addresses a multidisciplinary problem. This requirement may be met in one of the following ways:

- SPEA-V 600 Capstone in Public and Environmental Affairs, sections with an environmental focus.
- An alternative course with a similar structure, such as SPEA-E 546 Stream Ecology **or** SPEA-E 560 Environmental Risk Analysis or other approved course.
- SPEA-E 625 Research in Environmental Science (work with an advisory committee to complete a research project).
- Globase program, capstone in Global Business and Social Enterprise, sections with an environmental focus. (Only second year students can count GLOBASE as a capstone)

All capstone projects are expected to culminate in a formal report and public presentation.

### Experiential Requirement

(0–24 credit hours) Each candidate for the MSES degree must obtain professionally relevant experience through one of the following options:

- Approved Internship (0–6 credit hours) of SPEA-E 589. The student will work with the SPEA Career Development Office to arrange for a suitable internship. Internships vary greatly according to the expectations and requirements of the sponsor. Students are expected to give careful attention in the selection of an internship suitable to their professional goals.
- Thesis Option (18–24 credit hours) Refer to the discussion of the thesis option below.

### Concentrations

(18 credit hours) Each student should select one of the following concentrations. Topics courses and independent study credits may be included in any concentrations with the approval of a faculty advisor.

- [Applied Ecology](#)
- [Energy](#)
- [Environmental Chemistry, Toxicology, and Risk Assessment](#)
- [Specialized](#)
- [Water Resources](#)

### Thesis Option

(Typically 18–24 credit hours) For this option, the student pursues a research project culminating in a master's

thesis. This research is done under the supervision of a principal advisor and thesis committee, whom the student selects preferably in their first semester, but no later than at the start of their third semester. The thesis committee must be approved by the M.S.E.S. Program Director. The amount of course work and selection of specific courses is determined by the student's background, research topic, and the recommendations of the thesis committee. Completion of this option requires approval of the thesis and a successful oral defense of the project.

### Applied Ecology Concentration

The applied ecology concentration (18 credit hours) focuses on problem-solving techniques applied to current ecological issues. The diversity of the earth's living species in both natural and managed ecosystems offers students a variety of study areas within applied ecology, including forest ecology and management, fisheries and wildlife management, soil and watershed management, endangered species, and wetlands. Courses should be selected in consultation with a faculty advisor.

SPEA-E 460	Fisheries and Wildlife Management	(3 cr.)
SPEA-E 461	Fisheries and Wildlife Management Laboratory	(3 cr.)
SPEA-E 520	Environmental Toxicology	(3 cr.)
SPEA-E 522	Urban Forest Management	(3 cr.)
SPEA-E 528	Forest Ecology and Management	(3 cr.)
SPEA-E 534	Restoration Ecology	(3 cr.)
SPEA-E 540	Wetlands Ecology and Management	(3 cr.)
SPEA-E 544	Subsurface Microbiology and Bioremediation	(3 cr.)
SPEA-E 545	Lake and Watershed Management	(3 cr.)
SPEA-E 546	Stream Ecology	(3 cr.)
SPEA-E 555	Avian Conservation	(3 cr.)
SPEA-E 555	Plants and Plant Communities	(3 cr.)
SPEA-E 555	Urban Ecology	(3 cr.)
SPEA-E 556	Limnology	(4 cr.)
SPEA-E 557	Conservation Biology	(3 cr.)

### Energy Concentration

The energy concentration (18 credit hours) provides students an educational experience in topics associated with energy production, distribution, and use, using an interdisciplinary approach in science, technology, and public policy. This concentration allows flexibility in the choice of courses used to meet the concentration

requirements and to meet each student's professional goals.

### Required Courses

SPEA-E 574	Energy Systems	(3 cr.)
SPEA-R 674	Energy Economics and Policy	(4 cr.)

### Electives (12 credit hours)

Students select a mixture of science and policy courses related to energy in accordance to professional goals. No double counting with program core course is permitted. At least two courses must be taken from each group.

#### Natural Science Elective Group

SPEA-E 503	Natural Gas: Technical and Policy Challenges	(3 cr.)
SPEA-E 515	Fundamentals of Air Pollution	(3 cr.)
SPEA-E 518	Vector-based Geographic Information Systems	(3 cr.)
SPEA-E 529	Application of Geographic Information Systems	(3 cr.)
GEOG-G 532	Physical Climatology	(3 cr.)
GEOL-G 571	Principles of Petroleum Geology	(3 cr.)
GEOL-G 576	Climate Change	(3 cr.)
GEOL-G 587	Organic Geochemistry	(3 cr.)

#### Economics, Public Policy and Law-Related Elective Group

SPEA-E 501/X 511	Human Behavior and Energy Consumption	(3 cr.)
SPEA-E 535	International Environmental Policy	(3 cr.)
SPEA-E 590	International Energy Issues: A Nation-State Perspective	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-R 533/LAW-B 675	Public Natural Resources Law	(3 cr.)
SPEA-R 625	Environmental Economics and Policy	(3 cr.)
SPEA-R 643	Natural Resource Management and Policy	(3 cr.)
SPEA-R 645	Environmental Law	(3 cr.)

SPEA-S 596	Sustainable Development	(3 cr.)
SPEA-V 550-LAW-L 644	Energy Law and Policy	(3 cr.)
SPEA-V 550/LAW-L 660	Climate Law and Policy	(3 cr.)

### Environmental Chemistry, Toxicology, and Risk Assessment Concentration

The environmental chemistry, toxicology, and risk assessment concentration (18 credit hours) addresses the fate and transport of chemicals in the environment and the hazards and risks to human health and the environment associated with chemical pollution. Courses on the chemical/physical/biological reactions of pollutants in soil, aquatic, and atmospheric systems are included. Additional courses study the hazards associated with chemicals used in modern society, technologies available to manage and remediate contaminated sites, the toxicological effects of chemical exposure, and methods to assess risks associated with chemicals in the environment. Courses should be selected in consultation with a faculty advisor.

#### Core (9 credit hours)

Take one course in each of the following three groupings.

##### Environmental Chemistry:

SPEA-E 515	Fundamentals of Air Pollution	(3 cr.)
SPEA-E 521	PCBs, Dioxins and Flame Retardants	(3 cr.)
SPEA-E 539	Aquatic Chemistry	(3 cr.)
SPEA-E 564	Organic Pollutants: Environmental Chemistry and Fate	(3 cr.)
SPEA-E 570	Environmental Soil Science	(3 cr.)

##### Toxicology:

SPEA-E 520	Environmental Toxicology	(3 cr.)
SPEA-E 555	Toxicology in the 21st Century	(3 cr.)

##### Risk Analysis:

SPEA-E 560	Environmental Risk Analysis	(3 cr.)
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#### Electives (9 credit hours)

Take an additional three classes from the above lists or from the additional electives listed below.

SPEA-E 542	Hazardous Materials	(3 cr.)
SPEA-E 544	Subsurface Microbiology and Bioremediation	(3 cr.)
SPEA-E 502	Water Quality Modeling	(3 cr.)
SPEA-E 554	Groundwater Flow Modeling	(3 cr.)

SPEA-E 562	Solid and Hazardous Waste Management	(3 cr.)
GEOL-G 547	Instrumentation for Atmospheric Science	(3 cr.)
GEOL-G 587	Organic Geochemistry	(3 cr.)

### Water Resources Concentration

The water resources concentration (18 credit hours) emphasizes scientific principles of water quantity and quality. Courses provide information and problem-solving skills using biological, chemical, and physical descriptions of water in the environment. Courses should be selected in consultation with a faculty advisor.

SPEA-E 460	Fisheries and Wildlife Management	(3 cr.)
SPEA-E 461	Fisheries and Wildlife Management Laboratory	(3 cr.)
SPEA-E 520	Environmental Toxicology	(3 cr.)
SPEA-E 528	Forest Ecology and Management	(3 cr.)
SPEA-E 534	Restoration Ecology	(3 cr.)
SPEA-E 537	Environmental Chemistry Lab	(3 cr.)
SPEA-E 539	Aquatic Chemistry	(3 cr.)
SPEA-E 540	Wetlands Ecology and Management	(3 cr.)
SPEA-E 544	Subsurface Microbiology and Bioremediation	(3 cr.)
SPEA-E 545	Lake and Watershed Management	(3 cr.)
SPEA-E 546	Stream Ecology	(3 cr.)
SPEA-E 554	Groundwater Flow Modeling	(3 cr.)
SPEA-E 555	Watershed Hydrology	(3 cr.)
SPEA-E 556	Limnology	(4 cr.)
SPEA-E 557	Conservation Biology	(3 cr.)
SPEA-R 531	Water Law	(3 cr.)
GEOL-G 550	Surface Water Hydrology	(3 cr.)
GEOL-G 551	Advanced Hydrology	(3 cr.)

### Specialized Concentration

(18 credit hours) In consultation with advisors, students may design curricula that anticipate their career and educational goals and reflect their background and training. Specialized concentrations must be approved by the student's faculty advisor and the appropriate faculty program director to ensure high standards of rigor, depth,

and breadth. Specialized concentrations must be declared within the first 24 credit hours of a student's program

## Master of Science in Environmental Science Dual Degree Programs

Master of Science in Environmental Science–Master of Public Affairs (M.S.E.S.–M.P.A.)

Master of Science in Environmental Science–Doctor of Jurisprudence (M.S.E.S.–J.D.)

Other Dual M.S.E.S. Degree Programs

### Master of Science in Environmental Science–Doctor of Jurisprudence

The combined Master of Science in Environmental Science–Doctor of Jurisprudence program is a four-year, 115-credit-hour sequence of courses and research that provides depth and breadth in both environmental science and law. Both degrees are awarded when the student meets the degree requirements of the Mauer School of Law and SPEA.

### Application and Admission

The student must have a bachelor's degree in a physical or life science, engineering, or related field. Students interested in the dual M.S.E.S.–J.D. must apply to both the Mauer School of Law and the School of Public and Environmental Affairs. Students normally apply to both schools concurrently for the combined program. It is possible, however, for a person already enrolled in the Mauer School of Law to apply for admission to the School of Public and Environmental Affairs up to the end of the second year of law study. A student enrolled in SPEA may seek admission to the Mauer School of Law up to the end of the first year of the M.S.E.S. program

### Academic Standing

Grade point averages in the School of Law—Bloomington and SPEA are computed separately. To continue in the program, the student must meet the academic standards in each school. A student failing in one school but meeting academic standards in the other may complete work for the degree in the school in which academic standards are being met. Such completion must be according to the same conditions required of regular (noncombination) degree candidates; that is, 82 credit hours for law and 48 credit hours for SPEA. Students are eligible for honors in each school based on the criteria of each school.

### Program Advisors

Students enrolled in the combined program are required to have a SPEA faculty advisor and are encouraged to seek an advisor from the faculty of the Mauer School of Law. The co-advisors can then review and counsel with respect to each student's course selection for each semester to assure attainment of educational objectives.

### School Residency

Students in the dual M.S.E.S.–J.D. program should enroll in courses through SPEA the first year of their programs and through the Mauer School of Law in the second year of their programs. Alternatively, dual M.S.E.S.–J.D. students have the option of enrolling in courses through the Mauer School of Law in the first year and SPEA in the second year. In the third and fourth years, or until the dual

program is completed, students should enroll through the school in which the majority of their credit hours resides in each enrollment period.

**Program Requirements (115 credit hours)**  
**Master of Science in Environmental Science**  
**Requirements (36 credit hours)**

Students are required to complete 36 credit hours of courses distributed among the environmental science competencies, environmental sciences focus, and a multidisciplinary capstone project.

**Environmental Science core competencies (15 credit hours)**

Select 15 credit hours in consultation with an advisor:

SPEA-E 512	Risk Communication	(3 cr.)
SPEA-E 518	Vector-based Geographic Information Systems	(3 cr.)
SPEA-E 526	Applied Mathematics for Environmental Science	(3 cr.)
SPEA-E 527	Applied Ecology	(3 cr.)
SPEA-E 529	Applications for Geographic Information Systems	(3 cr.)
SPEA-E 536	Environmental Chemistry	(3 cr.)
SPEA-E 538	Statistics for Environmental Science	(3 cr.)
SPEA-E 560	Environmental Risk Analysis	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)
SPEA-R 625	Environmental Economics and Policy	(3 cr.)
SPEA-R 643	Natural Resource Management	(3 cr.)
SPEA-V 517	Public Management Economics	(3 cr.)

**Environmental Science Focus (18 credit hours)**

Select 18 credit hours in consultation with an advisor. Students are required to develop an area of specialization approved by a SPEA faculty advisor. It is recommended that this be done in consultation with both dual law and environmental science faculty advisors.

**Capstone Course (3 credit hours)**

select one of the following:

SPEA-E 546	Stream Ecology	(3 cr.)
SPEA-E 560	Environmental Risk Analysis	(3 cr.)

SPEA-E 625	Research in Environmental Science	(3 cr.)
SPEA-V 600	Capstone in Public and Environmental Affairs	(3 cr.)
*GLOBASE	Capstone in Global Business and Social Enterprise	(3 cr.)
*Please note	only second year students can count GLOBASE as a capstone.	

**Doctor of Jurisprudence Requirements (79 credit hours)**

Students are required to complete 79 credit hours of law courses and to satisfy all requirements for the degree Doctor of Jurisprudence. For specific requirements, see the Mauer School of Law Bulletin.

**Other Dual M.S.E.S. Degree Programs**

In addition to dual degree programs with the Indiana University School of Law–Bloomington, the School of Public and Environmental Affairs collaborates with centers on area studies, other Indiana University Bloomington departments, and professional schools to deliver dual degree programs. SPEA's combined master's degree programs address the demand for specialists with expertise in policy, management, and science and the expertise and skill offered by the partner program. Candidates for the combined degree programs, excluding the program with the Mauer School of Law, complete the competency requirements for the M.S.E.S. degree, additional course credits in a specialized focus for a total of 36 credit hours in the School of Public and Environmental Affairs, plus the required courses of the participating dual program. In every case students must apply separately to and be accepted into both programs to participate in a dual degree program.

To determine the requirements for participating dual degree departments or schools, refer to the section of the University Graduate School Bulletin about the participating unit or visit the appropriate Web page.

SPEA participates with the following units in their M.S.E.S. program:

Master of Science in Environmental Science–Master of Arts in Biology (M.S.E.S.–M.A.)  
[Department of Biology](#)

Master of Science in Environmental Science–Master of Arts in Geography (M.S.E.S.–M.A.)  
[Department of Geography](#)

Master of Science in Environmental Science–Master of Science in Chemistry (M.S.E.S.–M.S.)  
[Department of Chemistry](#)

Master of Science in Environmental Science–Master of Science in Geography (M.S.E.S.–M.S.)  
[Department of Geography](#)

Master of Science in Environmental Science–Master of Science in Geological Sciences (M.S.E.S.–M.S.)

## [Department of Geological Sciences](#)

Master of Science in Environmental Science–Master of Sciences in Physics (M.S.E.S.-M.S.)

## [Department of Physics](#)

# Master of Arts in Arts Administration

### Program Goals and Objectives

Arts administrators are extraordinary individuals. They must function as managers, fundraisers, planners, educators, conciliators, facilitators, communicators, and most important, as leaders. They must be realists as well as idealists, respectful of the needs of both art and business, and forward-looking yet mindful of the past.

Since 1971 the Indiana University Arts Administration Program has been committed to the development of such leaders. The program, a 16-month, multidisciplinary course of study leading to an M.A. in Arts Administration, is broad-based in outlook and curriculum and strives to achieve a balance of artistic and management concerns, theory and hands-on experience. Students complete three semesters of course work, on-campus practicums, and a supervised internship off campus. The program seeks to serve students who are at the beginning stages of their careers as well as older students wishing to change careers.

Though small in size, the City of Bloomington provides an ideal setting for the program. The city's thriving arts community includes more than 150 arts organizations as well as the internationally acclaimed Lotus World Music and Arts Festival. On the IU Bloomington campus, the School of Music presents more than 1,000 concerts and events each year, and a new production opens almost every other week on one of the two stages in the Department of Theatre and Drama. Other cultural organizations on campus include the IU Auditorium, which offers touring Broadway productions; the IU Art Museum, one of the nation's finest university art museums; the Mathers Museum of World Cultures; the African American Arts Institute; the Archives of Traditional Music; and the Lilly Library of rare books and manuscripts.

### Degree requirements

(45 credit hours) The program requires 45 credit hours of course work. A typical two-year course schedule includes 15 credit hours the first semester and 12 credit hours in the second semester. The third semester of 12 credit hours includes the capstone seminar course.

In the summer following the second semester of course work most students complete a seven week internship in an arts organization of their choice. These students are able to complete their degree in December of their second year of study. Some students opt to complete their internship in the spring following their final fall semester of course work. Recent sites have included Carnegie Hall, the St. Paul Chamber Orchestra, the Smithsonian, the Museum of Fine Arts–Houston, the Seattle International Film Festival, the Indianapolis Museum of Art, the Abrons Art Center, and the Barrier Island Group for the Arts (BIG ARTS) on Sanibel Island. While there is no thesis requirement, extensive writing projects are part of the capstone seminar course and internship experiences.

The program is as follows:

### Semester I

AADM-Y 502	Introduction to Arts Administration and Organizational Behavior	(3 cr.)
AADM-Y 511	Performing Arts Center Management	(3 cr.)
AADM-Y 525	Museum Management	(3 cr.)
AADM-Y 535	Arts Administration and the Cultural Sector	(3 cr.)
	Select elective(s) (to equal 3 cr.) with approval of the Arts Administration Program advisor.	

### Semester II

AADM-Y 504	Arts Organization in the Public and Private Sectors	(3 cr.)
AADM-Y 530	Audience Development and Marketing the Arts	(3 cr.)
BUS-L 575	Legal Issues in the Arts	(3 cr.)
	Select elective(s) (to equal 3 cr.) with approval of the Arts Administration Program advisor.	

### Summer

AADM-Y 550	Practicum in Arts Administration	(1-3 cr.)
AADM-Y 750	Internship in Arts Administration	(1.5-3 cr.)

### Semester III

AADM-Y 515	Financial Management for the Arts	(3 cr.)
AADM-Y 650	Seminar in Arts Administration	(3 cr.)
SPEA-N 558	Fund Development for Nonprofits	(3 cr.)
	Select elective(s) (to equal 3 cr.) with approval of the Arts Administration Program advisor.	

For information on elective choices, please visit <https://spea.indiana.edu/masters/degrees-certificates/arts-administration/curriculum/electives.html>

## Doctor of Philosophy in Environmental Science

This doctoral program is administered by the School of Public and Environmental Affairs in cooperation with the Departments of Biology, Chemistry, Geography, and Geological Sciences. The Ph.D. in environmental science degree is awarded by the University Graduate School.

The program provides a rigorous, comprehensive education in environmental science. The specific objectives of the program are:

- to conduct advanced research and scientific analysis of environmental events, issues, and problems
- to further understanding of the nature and management of natural and human environments
- to provide an opportunity for students and faculty members in several departments to engage in collaborative environmental research in an interdisciplinary mode

### Admission

A student must apply to the School of Public and Environmental Affairs for doctoral studies; those accepted will be recommended to the University Graduate School for formal admission into the Ph.D. program. Applicants to this program must have completed at least a bachelor's degree in science, mathematics, engineering, or a related field. Prospective students are required to submit:

- a statement of purpose, which should be as specific as possible and, preferably, should refer to potential research mentors by name
- official results of the Graduate Record Examinations (GRE)
- official transcripts of all undergraduate and graduate course work completed
- three letters of recommendation. Applicants whose native language is not English must also submit results of the Test of English as a Foreign Language (TOEFL)

### Degree Requirements

- substantial knowledge in a primary environmental science concentration
- breadth in related environmental science and policy
- an understanding of research methods
- an in-depth knowledge of the dissertation topic
- a dissertation that demonstrates the student's ability to analyze, explain, and interpret research clearly and effectively

### Advisory Committee

During the first semester of enrollment, each student must organize an advisory committee. Normally this committee consists of at least four faculty members: at least two should be from the School of Public and Environmental Affairs; the others may be from other departments or from outside the university. Membership of the advisory committee is approved by the director of the Doctoral Program in Environmental Science and the dean of the University Graduate School. At least three members of the

advisory committee must be full members of the graduate faculty.

### Fields of Study

Each student should define a principal field of study, which may be interdisciplinary. The student should prepare a proposal outlining a program of course work that the student believes lies within that principal field.

Each student should also prepare a program of course work that fulfills the requirement of breadth in environmental science and policy. The breadth requirement may be fulfilled by using a wide spectrum of environmentally related courses, including areas such as economics, law, and management, in addition to other science courses.

Each student should also prepare a statement of courses or activities for meeting the research methods requirement. Normally these include subjects such as computer science, geographic information systems, remote sensing, statistics, and mathematical modeling, although other technical skill areas such as electronics and analytical chemical techniques may be appropriate for some students.

### Narrative Statement

Each student must prepare a narrative statement that includes a discussion of the student's previous educational experiences, a statement of career objectives, a statement of research interests, and a proposed program of course work.

Each student must submit the narrative statement to the advisory committee for approval, usually during the first semester in the program.

### Course Requirements

The exact nature and amount of course work in each of the three areas—principal field of study, breadth in environmental science and policy, and research methods—is determined by the advisory committee after review and approval of the student's proposed plan of study in each of these areas. Selection of specific courses is based on obtaining

- adequate knowledge for qualifying examinations
- appropriate preparation for a research project
- a mixture of courses that meets the individual professional goals of the student

The Ph.D. degree requires the completion of at least 90 credit hours in advanced study and research beyond the bachelor's degree. A student must complete a minimum of 30 credit hours of advanced course work in environmental science and policy. Students must also complete a minimum of 30 credit hours of research, normally taken as SPEA-E 625 or SPEAE 890. The student, with the approval of the advisory committee, should complete some combination of additional course work and research sufficient to meet the 90 credit hour requirement.

Students are required to enroll in SPEA-E 680 Seminar in Environmental Science and Policy (1 credit hour/semester) for four semesters during their degree program. Students must give at least one seminar presentation in SPEA-E 680 as part of their Ph.D. in Environmental Science requirement. Students enrolled in SPEA-E 680 may either make a formal presentation or write a brief synopsis and critique of four presentations attended each semester. Students are encouraged to enroll in

SPEA-E 710 Advanced Topics in Environmental Science, which may be taken multiple times as the topics will vary. Advanced topics and reading courses may be used to meet requirements, depending upon the topic and the student's area of interest.

Students should note that 30 credit hours of advanced course work, if properly selected, and 6 credit hours of research, may be applied toward the Master of Science in Environmental Science (M.S.E.S.) degree. With an additional 12 credit hours of approved course work, a student may be awarded the M.S.E.S. degree while completing the requirements for the Ph.D. in environmental science. Completion of the M.S.E.S. degree as part of this doctoral program is not a requirement; however, this option may be appropriate for some students.

### Qualifying Examinations

Before a student is admitted to candidacy, all requirements determined by the advisory committee must be met and the qualifying examinations passed. A student who fails qualifying examinations may retake them only once.

The decision to admit a student to doctoral candidacy is made by the advisory committee, which evaluates the student's performance in the written examination, research proposal, and oral examination.

### Written Examination

This examination should be taken by the end of a student's fifth semester in the Ph.D. program. The exam focuses on topics covered by the student's course work and related to the student's research interests. The examination is written and graded by the student's advisory committee. The written examination is graded as pass, conditional pass, or fail.

### Research Proposal

No later than the end of the fifth semester, the student should submit a written research proposal for review by the advisory committee. The proposal should be documented, clearly stating a research objective, the approach to be taken, and the significance of the work.

### Oral Examination

Each candidate is examined orally by the advisory committee. The oral examination expands upon the written examination and covers the student's research proposal.

### Research Committee

Upon the student's successful completion of the qualifying examination, a research committee is formed. Normally this committee consists of at least four faculty members: at least two should be from the School of Public and Environmental Affairs; the others may be from other departments. The director of the Doctoral Program in Environmental Science recommends the student's research committee to the dean of the University Graduate School. At least three members of the research committee must be full members of the graduate faculty.

### Dissertation

A dissertation is required and must be of sufficient value to warrant publication. The dissertation must represent a substantial research effort, both in quality and quantity. The dissertation requirement may be met by preparing a traditional dissertation or by preparing a portfolio of

research documents including publications, manuscripts in press, and completed manuscripts suitable for submission to a journal. These documents may have multiple authors, although the doctoral candidate must demonstrate that he or she made significant contributions to at least two of the publications or manuscripts submitted for review. The research portfolio must have introductory and concluding chapters to integrate across the topics. The research portfolio also must be prepared to meet the University Graduate School's requirements for dissertations. A public presentation of the dissertation research is required. The dissertation must be approved by the research committee.

## Doctor of Philosophy in Public Affairs

The Doctoral Program in Public Affairs was created to take advantage of the unique strengths of SPEA's interdisciplinary faculty and research programs, both of which have earned wide recognition from peer institutions, national and international agencies, and professional groups. The curriculum equips students with the necessary skills for independent research and analysis of problems, issues, and solutions in government and the nonprofit sector in four major fields:

- **Public Finance:** the theory and practice of fiscal administration, including public budgeting, revenue administration, and financial management
- **Public Management:** the design and operation of government institutions, including strategic/operations management and interrelationships between public and private organizations;
- **Public Policy Analysis:** research methods and quantitative techniques for policy analysis, including the content, design, and evaluation of public programs; and
- **Environmental Policy:** the study of and contribution to public policies that affect the environment, both domestic and international, including legal, economic, and other policy tools and approaches.

Instead of being grounded in a traditional academic discipline, each of the fields has developed from several theoretical literatures applied to real-world public affairs problems. Although research is grounded in the social sciences, the context of inquiry reverses the normal research process. Instead of beginning with questions originating in discipline-based scholarship, the research process begins with public problems and issues. The research challenge, then, is to match available tools of inquiry to the research opportunities presented by problems.

### Admission

Students apply directly to the School of Public and Environmental Affairs; those accepted are recommended to the University Graduate School for formal admission into the Ph.D. program.

Application materials can be found at [www.gradapp.indiana.edu/](http://www.gradapp.indiana.edu/). Applicants to this program must have completed at least a bachelor's degree. Prospective students are required to submit (1) a statement of purpose, which should be as specific as possible and, preferably, should refer to potential research mentors by name; (2) official results of the Graduate Record Examinations (GRE); (3) official transcripts of all

undergraduate and graduate work completed; and (4) three letters of recommendation. Applicants whose native language is not English must also submit results of the Test of English as a Foreign Language (TOEFL).

### Degree Requirements

The Ph.D. in Public Affairs degree requires the completion of at least 90 credit hours in advanced study and research beyond the baccalaureate. Typically, two-thirds of the 90 credit hours are taken in formal course work and one-third in thesis credit. Students completing a Master of Public Affairs or similar degree may be allowed to transfer some of their graduate course work (30 hours maximum) if approved by their Progress Review Committees, though a prior master's degree is not required for admission.

- Core Requirements
- Research Tool Skills
- Major Fields
- Minor Field

### Major Junctures

#### Progress Review Committee

Each student is assigned an advisor on arrival in Bloomington. If the advisor sufficiently reflects a student's research interests, then the student can request that the advisor serve as chairperson of the student's Progress Review Committee. The student may also select another professor who is more suited to the student's research interests.

At the end of the first year, the student develops a Progress Review Committee. The committee, in cooperation with the student, defines program objectives, supervises the selection and completion of the minor field, monitors overall progress toward completion of course work requirements, and assists in preparing for the qualifying exams. Members of the Progress Review Committee should be scholars who know the student's academic record and who are recognized experts in the fields in which the student will stand examination. The committee will consist of four to five members chosen by the student in consultation with the director of Ph.D. in Public Affairs/Ph.D. in Public Policy—Bloomington the Ph.D. program. At least one member of the Progress Review Committee will be chosen from each of the student's two major fields. It is required that one member of the Progress Review Committee be a non-School professor and represent the outside minor.

#### Third Semester Review

During the third semester each student holds a third semester review meeting with the Progress Review Committee. The purpose of the meeting is to reach an agreement between the student and the committee about the character and status of the student's program. This meeting also serves as a formal evaluation of the student's performance and prospects and includes a presentation of a research paper prepared by the student. In this progress review meeting, the committee members review the student's record of past and planned courses, the likely dissertation topic, and the quality of the research paper and its presentation. The committee determines whether the proposed program of courses will prepare the student for the examinations to be taken at the end of the course work as well as for the dissertation. The principal objective of the research paper is to allow the faculty to judge whether the student has the ability

to complete all requirements for this research-oriented degree in a timely fashion. Thus, of most importance will be that the paper demonstrates the student's ability to carry out reasonably independent research and write the results in a well-reasoned and coherent fashion. The paper should also demonstrate that the student has a good command of the literature in the area and has the ability to use appropriate research methods in carrying out the analysis. It is anticipated that the progress review paper will be a revision of a substantial research paper prepared to fulfill a requirement for a regular course. (The student can, however, submit an entirely new paper to fulfill this requirement.) The paper should be of a quality warranting presentation at a professional society meeting.

### Qualifying Examinations

After completion of course work, students take a written exam in each of their two major fields. The Examination Committee for each field may also require an oral examination at its discretion. If there is an exam requirement in the minor department, then the student must also complete a third exam. Once the examinations are successfully completed, the student is formally admitted to candidacy.

### Dissertation

After filing for candidacy status, the doctoral candidate forms a Research Committee consisting of at least four faculty members, including one representative of the candidate's minor field. This committee may be but is not necessarily identical to the Progress Review Committee. The selection of Research Committee members should reflect the dissertation topic and expertise of the faculty chosen.

The candidate prepares a dissertation proposal to present and defend in a meeting of the Research Committee. The Research Committee is ultimately responsible for determining whether the dissertation is acceptable.

### Placement

The Ph.D. Office, the director of the program, and individual faculty members work hard to ensure that graduates of the program are placed in academic or research organizations. Although the Public Affairs program has been operational only since 1993, graduates have been very successful recently in obtaining such positions. Recent placements include North Carolina State University, The Ohio State University, University of Colorado, Syracuse University, Brigham Young University, Iowa State University, the U.S. Department of Labor, National Taipei University, and Yonsei University in South Korea.

### Core Requirements

The following three courses are required for all Public Affairs students:

SPEA-V 680	Research Design and Methods in Public Affairs	(3 cr.)
SPEA-M 621	Seminar in Teaching Public and Environmental Affairs	(2 cr.)
SPEA-P 691	Workshop in Public Policy	(1 cr.)

This course prepares students for college teaching and their professional responsibilities toward current and future students. It is taken in a student's first year in the program.

Each student is required to take this 1 credit hour course for three semesters. The workshop features research presentations by faculty, visiting scholars, and advanced students. Its intent is to prepare students to critique current literature in the field, learn to prepare manuscripts for presentation and publication, and defend their ideas and methods.

**Research Tool Skills**

Required research skills include a two-semester quantitative analysis sequence and two additional elective courses or proficiency in a foreign language.

The two-semester quantitative analysis sequence can be fulfilled a number of different ways, including one of the sequences listed below.

SPEA-V 606	Statistics for Research in Public Affairs I	(3 cr.)
<b>and</b>		
SPEA-V 607	Statistics for Research in Public Affairs II	(3 cr.)

BUS-G 651	Econometric Methods in Business I	(3 cr.)
<b>and</b>		
BUS-G 652	Econometric Methods in Business II	(3 cr.)

ECON-E 572	Statistical Techniques in Economics II	(3 cr.)
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<b>and</b>		
ECON-E 671	Econometrics I	(3 cr.)

POLS-Y 576	Political Data Analysis II	(3 cr.)
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<b>and</b>		
POLS-Y 577	Advanced Topics in Political Science	(3 cr.)

SOC-S 554	Statistical Techniques in Sociology I	(3 cr.)
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<b>and</b>		
SOC-S 650	Statistical Techniques in Sociology II	(3 cr.)

In addition, students must demonstrate either

- advanced proficiency in quantitative analysis or specialized research skills by completing two additional courses approved by the student's Progress Review Committee

or

- proficiency in a language proficiency exam from the appropriate language department at Indiana University.

**Major Fields**

Students select two of the four SPEA Public Affairs major fields to prepare for their qualifying examinations. For each field, the student must complete required courses and approved electives. The fields and the required courses are:

**Public Management**

The design and operation of government and not-for-profit institutions, including strategic/operations management and interrelationships between public, private, and civil society organizations.

Required courses:

SPEA-M 671	Public Organization and Management I	(3 cr.)
SPEA-M 672	Public Organization and Management II	(3 cr.)

**Public Finance**

The theory and practice of fiscal administration, including public budgeting, revenue administration, and financial management.

Required courses:

SPEA-F 666	Public Revenue	(3 cr.)
SPEA-F 668	Seminar in Public Budgeting	(3 cr.)

**Public Policy Analysis**

Research methods and quantitative techniques for policy analysis, including the content, design, and evaluation of public programs.

**Required courses:**

SPEA-P 664	Seminar in Policy Analysis	(3 cr.)
SPEA-P 673	Public Policy Analysis and Management Science/Operations Research	(3 cr.)

**Environmental Policy**

Economics, law, politics, and implementation of environmental policies in the United States and abroad.

**Required courses:**

SPEA-P 710	<i>Policy</i> Topics in Public Policy: Domestic Environmental Policy	(3 cr.)
	<b>or</b> SPEA-P 710 Topics in Public Policy: International Environmental Policy	
SPEA-R 625	<i>Economics</i> Environmental Economics	(3 cr.)
SPEA-R 645	<i>Law</i> Environmental Law	(3 cr.)
	<b>or</b> LAW-B 783 International Environmental Law	

**Minor Field**

Students select a minor field according to their research interests. Students have the option of taking either: an external minor field, an internal minor field, or a self-designed minor field.

- External minor field: For an external minor field, a three to five course sequence is negotiated between the student and the Progress Review Committee, following the requirements of the department or school offering the minor. Among the external minor fields chosen by students in the program are Economics, Finance, Political Science, Sociology, Organizational Behavior and Human Resource Management, Statistics, and Geopgraphy.
- Internal minor field: For an internal minor field, students may choose any one of the four major fields (public management, public finance, public policy analysis, and environmental policy) or one of the four minor fields (environmental studies, nonprofit management, regionaleconomic development, urban and affairs) offered by SPEA. A four course sequence (12 credit hours) is negotiated between the student and the Progress Review Committee.

Students choosing a third major field for their minor field must take the required courses in that field.

- Self-designed minor field. Students have the option of a self-designed minor field to provide opportunities for specialized training without requiring the creation and approval of a defined minor field. A four course sequence (12 credit hours) is negotiated between the student and the Progress Review Committee. Students may combine courses from SPEA and other academic units for their self-designed minor. The University Graduate School must approve a student's proposal for a self-designed minor field (see the University Graduate School Bulletin at <http://www.indiana.edu/~bulletin/iu/gradschool/2014-2015/index.shtml>).

*Courses taken as part of any minor field cannot count toward a major field.*

**Doctor of Philosophy in Public Policy**

The Joint Ph.D. Program in Public Policy is a collaborative endeavor of the School of Public and Environmental Affairs and the Department of Political Science.

Its emphasis is on the broad field of public policy, concerning the environment of public policy; the processes of policy formation, management, and implementation; and the analysis and evaluation of policy outputs and results. The institutional setting and design of the program offer a unique educational opportunity. Students in the program receive rigorous social science training and gain knowledge of government decision-making processes, problem-solving capabilities, and an understanding of the substantive aspects of public problems and their effects on public institutions.

**Admission**

All applicants to the public policy program are subject to approval by a SPEA–Department of Political Science joint admissions committee. Application materials can be found at [www.gradapp.indiana.edu/](http://www.gradapp.indiana.edu/). Applicants for admission and for financial assistance are required to submit a statement of career goals, official results of the Graduate Record Examination (GRE), official transcripts of all undergraduate and graduate work, and a minimum of three letters of recommendation. Students whose native language is not English also must submit results of the Test of English as a Foreign Language (TOEFL). The Joint Program Committee on Admissions and Financial Aid examines each application closely to determine suitability for the program. The committee looks beyond the formal academic record, at the applicant's demonstrated ability to pursue independent study, language and research skill training, and maturity and experience.

**Degree Requirements**

The University Graduate School requires doctoral students to complete 90 credit hours of graduate credit. Typically, two-thirds of the 90 credit hours are taken in formal course work and one-third in thesis credit. Students holding a Master of Public Affairs or similar degree may be allowed to transfer some of their graduate course work (30 credit hours maximum) if approved by their Progress Review Committee.

- Core Requirements
- Research Tool Skills
- Fields of Concentration

**Major Junctures**  
**Progress Review Committee**

The Progress Review Committee consists of from four to six faculty members. Two SPEA faculty must be selected for the SPEA concentration and two Political Science faculty for the Political Science concentration. For the shared public policy concentration, there must be one SPEA and one Political Science faculty member. One faculty member is chosen by the student to act as the chair of the committee. The chairperson serves as the student's mentor and guides the student through the Progress Review and qualifying examination process.

Before the meeting of the Progress Review Committee, the student develops a Progress Review Statement. The statement needs to include background professional and educational information, course work completed and planned in each concentration and for basic and advanced tool skills, tentative dates for taking qualifying exams, and a discussion of a proposed dissertation topic. Once approved by the committee, the statement serves as a contract for the completion of degree requirements.

**Qualifying Examinations**

After completing the course work for a field of concentration, the student is eligible to take the qualifying examination for that concentration. The examinations in fields of concentration offered by the Political Science Department and SPEA are prepared by faculty in those fields and offered at times scheduled by the Political Science Department and SPEA. The examination in the field of Public Policy is written jointly by faculty in the Political Science Department and SPEA, and students can negotiate the timing of that examination.

After receiving a pass or qualified pass on each of the three exams, the student schedules the oral examination. Upon completion of the oral examination, signatures of the committee member and program director are required on the "Report of Preliminary Examination Committee" form.

**Dissertation**

After filing for candidacy status, the doctoral candidate forms a Research Committee consisting of at least four faculty members. Two of the members must be School of Public and Environmental Affairs faculty, and two must be from Political Science. This committee may be but is not necessarily identical to the Progress Review Committee. The selection of the Research Committee members should reflect the dissertation topic and expertise of the faculty chosen.

The candidate prepares a dissertation proposal to present and defend in a meeting of the Research Committee. The Research Committee reviews the research proposal and requires changes as needed.

Once the dissertation research is completed, the candidate defends the thesis in an open oral examination meeting. The Research Committee is ultimately responsible for determining whether the dissertation is acceptable.

**Placement**

The Ph.D. Office, the director of the program, and individual faculty members work hard to ensure that graduates of the program are placed in academic or research organizations. Graduates of the Joint Program in Public Policy have been very successful in obtaining such positions. Recent placements include George Washington University, Emory University, Florida State University, University of North Carolina, The Ohio State University, University of Arizona, Georgia Institute of Technology, Ulsan University (Korea), the University of Massachusetts, the U.S. Agency for International Development, and University of Washington.

**Core Requirements**

Public Policy students are required to complete the following courses:

SPEA-M 621 <b>or</b> POLY-Y 550	Seminar in Teaching Public and Environmental Affairs <b>or</b> Political Science and Professional Development (These courses prepare students for college teaching and their professional responsibilities toward current and future students. They are taken in a student's first year in the program).	(2 cr. <b>or</b> 1-3 cr.)
SPEA-P 690 <b>or</b> POLY-Y 565	Seminar in Public Policy Process <b>or</b> Public Administration, Law, and Policy: Approaches and Issues (This course is offered alternately each fall semester by SPEA-P 690 and the Department of Political Science Y 565)	(3 cr.)
SPEA-P 691	Workshop in Public Policy (Each student is required to take this 1 credit hour course for three semesters. The workshop features research presentations by faculty, visiting scholars, and advanced students. It prepares students	(3 cr.)

to critique current literature in the field, to prepare manuscripts for presentation and publication, and to defend their ideas and theories.

There are two sections offered: one by SPEA and the other by the Workshop in Political Theory and Policy Analysis).

SPEA-V 680 or POLS-Y 570 Research Design and Methods in Public Affairs or Introduction to the Study of Politics (3 cr.)

- Public Finance
- Policy Analysis
- Political Science:
  - American Politics
  - Comparative Politics
  - International Relations
  - Political Philosophy
  - Political Theory and Methodology

Course offerings in SPEA and Political Science help the student prepare for examinations in these fields, and students supplement their course work with directed readings and research. There is no predetermined set of courses required of all students. Course selection is the responsibility of the student, working in conjunction with his or her Progress Review Committee.

## Doctoral Minors

The School of Public and Environmental Affairs provides course work and other student-related activities for those working toward doctoral degrees in other schools and colleges of Indiana University who select a minor field in public and environmental affairs.

Five minor fields are available:

- Environmental Studies Minor
- Nonprofit Management Minor
- Public Management Minor
- Regional Economic Development Minor
- Urban Affairs Minor

### Environmental Studies Minor

(12 credit hours) Students in Ph.D. programs at Indiana University may, with the consent of their advisory committee, choose environmental studies as an outside minor. The minor is flexible and is usually designed by students in accordance with their needs.

### Requirements

- The doctoral candidate must secure a faculty advisor in consultation with the director of the Doctoral Program in Environmental Science. The advisor may not be from the candidate's major department. The candidate's advisor serves as the representative in all examinations or other requirements of the candidate's Ph.D. program that relate to the minor. The advisor decides on the character of the examination, if any, in the minor field and certifies that the candidate has met the requirements of the minor.
- The candidate must take at least 12 credit hours of graduate-level courses related to environmental studies. These courses must be from at least two different disciplines outside the candidate's major department. The choice of courses should be made in consultation with the candidate's advisor and must be approved by the director of the Doctoral Program in Environmental Science. Acceptance of the proposed minor is based on two criteria:
  - the courses must have a direct relationship to environmental studies
  - the courses must not normally be required as part of major or tool skill options in the

### Research Tool Skills

Required course work for research skills includes a basic two-semester statistics sequence and two additional elective courses or proficiency in a foreign language.

### Basic Tool Skills

The two-semester quantitative analysis sequence requirement is generally fulfilled through one of the course sequences listed below.

- SPEA-V 606 Statistics for Research in Public Affairs I (3 cr.) and SPEA-V 607 Statistics for Research in Public Affairs II (3 cr.)
- POLS-Y 575 Political Data Analysis I (3 cr.) and POLS-Y 576 Political Data Analysis II (3 cr.)
- SOC-S 554 Statistical Techniques in Sociology I (3 cr.) and SOC-S 650 Statistical Techniques in Sociology II (3 cr.)

### Advanced Tool Skills

In addition, students must demonstrate either

- advanced proficiency in quantitative analysis or specialized research skills by completing two additional courses approved by the student's Progress Review Committee or
- proficiency in a language appropriate to his/her field of study and approved by the Progress Review Committee. To qualify as language proficient, a student must take a language proficiency exam from the appropriate language department at Indiana University

### Fields of Concentration

The School of Public and Environmental Affairs and the Department of Political Science share equally in delivering Public Policy as a field of concentration. Students in the Public Policy Program select two concentration areas—one from SPEA and one from Political Science—in addition to the required concentration in public policy.

These fields of concentration include the following:

SPEA:

- Environmental Policy
- Public Management

student's major department. Courses in the minor program should be selected according to the student's interest. Students majoring in areas other than the natural sciences, for example, may wish to consider the offerings in the natural sciences; similarly, natural science students might consider course offerings in the social and behavioral sciences.

- A minimum cumulative grade point average of 3.0 (B) must be attained in all courses used for the minor.

**Nonprofit Management Minor**

(12 credit hours) Students in a Ph.D. program at Indiana University may select nonprofit management as an outside minor.

**Requirements**

- The doctoral student must secure an advisor from the faculty of the School of Public and Environmental Affairs. The faculty advisor will serve as the representative of SPEA in all examinations and other requirements of the student's Ph.D. program that pertain to the minor.
- The minor in nonprofit management requires 12 credit hours of courses approved by the advisor. Three of the four courses must be SPEA courses. The additional course may come from SPEA or from any of a variety of disciplines relevant to nonprofit management.

Some examples of courses appropriate for the SPEA minor in nonprofit management are:

SPEA-F 526	Financial Management for Nonprofit Organizations	(3 cr.)
SPEA-M 602	Strategic Management of Public and Nonprofit Organizations	(3 cr.)
SPEA-M 672	Public Organization and Management II	(3 cr.)
SPEA-N 521	The Nonprofit and Voluntary Sector	(3 cr.)
SPEA-N 522	Human Resource Management in Nonprofit Organizations	(3 cr.)
SPEA-N 523	Civil Society and Public Policy	(3 cr.)
SPEA-N 524	Civil Society in Comparative Perspective	(3 cr.)
SPEA-N 525	Management in the Nonprofit Sector	(3 cr.)
SPEA-N 558	Fund Development for Nonprofits	(3 cr.)

SPEA-P 562	Public Program Evaluation	(3 cr.)
SPEA-V 685	Research Seminar in Management (approved topics)	(3 cr.)

- A minimum cumulative grade point average of 3.0 (B) must be attained in all courses used for the minor.
- Special requirement for 500-level courses. Students taking a 500-level course (and SPEA-V 602) are required to show that they have completed doctoral-level work in conjunction with the course in order to count the course for the minor. Students must alert the instructor to their doctoral status and request additional/alternative assignments. If the instructor is unwilling to do this, the student should select a different course in conjunction with the candidate's advisor.

**Public Management Minor**

(12 credit hours) Students in doctoral programs at Indiana University may, with the consent of their advisory committee, select public management as an outside minor.

**Requirements**

- The doctoral candidate must secure an advisor from the faculty of the School of Public and Environmental Affairs. The faculty advisor serves as the representative of SPEA in all examinations and other requirements of the student's Ph.D. program that pertain to the minor.
- The student must take at least 12 credit hours of SPEA graduate-level courses in public management. The choice of courses must be approved by the advisor.
- A cumulative grade point average of at least 3.0 (B) must be maintained.

**Regional Economic Development Minor**

(12 credit hours) The minor field in regional economic development involves study in the topics facing regional planners, developmental specialists, and researchers, and an introduction to the body of knowledge in regional development. The study of regional economic development broadens students' perspectives, and students may apply this knowledge to a research agenda that incorporates regional development questions. The student is expected to have studied both micro- and macroeconomics before beginning the minor program.

**Requirements**

- The director of the Institute for Development Strategies serves as the minor advisor. The advisor ensures that prerequisites have been met and certifies that the candidate has met the requirements of the minor. An examination may be required at the discretion of the advisor.
- The candidate must take at least 12 credit hours of approved courses, which must include two core courses and 6 credit hours of electives. The core curriculum consists of a topics course and a general methodology course. (If the required methodology course has been completed as a requirement for the student's major, an additional elective must be taken to fulfill the minor requirement.) The required topics

course is SPEA-V 669 Economic Development, Globalization, and Entrepreneurship. This course is cross-listed as GEOG-G 817 Seminar in Regional Geography. The elective courses may come from a variety of disciplines and must be selected in consultation with and approved by the student's minor advisor.

- A cumulative grade point average of at least 3.0 (B) must be maintained.

### Urban Affairs Minor

(12 credit hours) Students in doctoral programs at Indiana University may, with the consent of their advisory committee, choose urban affairs as an outside minor. The minor is flexible and is designed by students and their advisors in accordance with students' needs.

### Requirements

- After consulting the director of the Joint Ph.D. in Public Policy Program, the doctoral candidate must secure an advisor from the faculty of the School of Public and Environmental Affairs. This faculty advisor serves as the school's representative in all examinations or other minor program requirements of the candidate's Ph.D. program. The advisor determines the character of the minor examination (if any), participates in the candidate's oral examinations, and certifies that the candidate has met the requirements of the minor.
- The candidate must take at least 12 credit hours of graduate-level courses related to urban affairs. Courses should be selected from at least two departments outside that of the candidate's major. The selection of courses must be approved by the candidate's SPEA advisor.
- A cumulative grade point average of at least 3.0 (B) must be maintained.

## Certificate Programs

### Admission

The student must have a bachelor's degree from an accredited college or university to apply. For the Certificate in Hazardous Materials Management, applicants must have completed one year of general chemistry. For the Certificate in Social Entrepreneurship, applicants must be enrolled in the M.P.A. program in SPEA or the M.B.A. program in the Kelley School of Business.

### Application

Application forms and literature may be obtained from the same SPEA offices that offer material for the graduate degree programs.

Students should apply to the SPEA admissions office on the Bloomington campus.

### Application Deadlines

Application deadlines for the certificate programs are May 1 for the fall semester and November 1 for the spring semester.

### Application Fee

Students must pay a nonrefundable application fee.

### Program Restrictions

- Students enrolled in a certificate program must complete it within 15 credit hours of approved SPEA

course work with a minimum cumulative GPA of 3.0 (B). Failure to do so results in automatic dismissal from the certificate program.

- Students who have completed more than three SPEA courses are not eligible for admission to a certificate program.
- Transfer credit, course substitutions, or course waivers are not accepted for meeting the Public Management or Nonprofit Management certificate requirements. Students in the Hazardous Materials Management Certificate Program may utilize these options; however, they must first have the approval of their campus graduate program advisors.
- With the exception of the Certificate in Social Entrepreneurship, students admitted to a SPEA graduate degree program are not eligible for admission to the certificate program or eligible for the awarding of a certificate.
- Admission to or successful completion of a certificate program does not guarantee subsequent admission to a SPEA graduate degree program.
- Students enrolled in the certificate program who apply to SPEA's graduate degree programs must meet all existing admission requirements.
- Students planning to request admission to a SPEA graduate degree program after successfully completing a certificate program should refer to the application procedure presented earlier in this bulletin.

### Certificates

Five graduate certificates are offered on the Bloomington campus. Certificate programs are flexible and adaptable to the needs of either precareer or in-service students.

- Certificate in Hazardous Materials Management
- Certificate in Nonprofit Management
- Certificate in Public Budgeting and Financial Management
- Certificate in Public Management
- Certificate in Social Entrepreneurship

### Certificate in Hazardous Materials Management

The Certificate in Hazardous Materials Management is a 15 credit hour program of study. The program provides managers and technicians in concerned organizations and agencies, public and private, with training in the management of hazardous materials. The certificate program provides an information base that these managers and technicians can use to develop, implement, manage, and assess hazardous waste programs for local, state, and federal regulatory agencies. Graduate students in other disciplines can use the program to supplement their primary fields with course work in hazardous materials management, possibly using the certificate courses as part of a doctoral or master's minor.

### Required Courses (9 credit hours)

SPEA-E 520	Environmental Toxicology	(3 cr.)
SPEA-E 542	Hazardous Materials	(3 cr.)
SPEA-E 562	Solid and Hazardous Waste Management	(3 cr.)

**Electives (6 credit hours)**

Two of the following courses:

SPEA-E 510	Hazardous Materials Regulation	(3 cr.)
SPEA-E 515	Fundamentals of Air Pollution	(3 cr.)
SPEA-E 526	Applied Mathematics for Environmental Science	(3 cr.)
SPEA-E 536	Environmental Chemistry	(3 cr.)
SPEA-E 552	Environmental Engineering	(3 cr.)
SPEA-E 553	Creation and Solution of Environmental Models	(3 cr.)
SPEA-E 554	Groundwater Flow Modeling	(3 cr.)
SPEA-E 556	Limnology	(4 cr)
SPEA-E 560	Environmental Risk Analysis	(3 cr.)
SPEA-H 433	Industrial Hygiene and Radiological Health	(3 cr.)
GEOL-G 430	Principles of Hydrology	(3 cr.)
GEOL-G 451	Principles of Hydrogeology	(3 cr.)
GEOL-G 551	Advanced Hydrogeology	(3 cr.)
GEOL-G 585	Environmental Geochemistry	(3 cr.)

Or other specialty courses with the approval of the graduate program advisor.

**Certificate in Nonprofit Management**

The Certificate in Nonprofit Management is a 15 credit hour program of study. The certificate is designed to serve the needs of individuals who would like exposure to the nonprofit sector and nonprofit management issues but who do not wish or need to pursue a degree in nonprofit management. The certificate complements other courses of study or career experience in such areas as social work, library science, and parks and recreation. Students pursuing a nonprofit management certificate gain an understanding of how to work in and with nonprofit organizations. This certificate is also available to students in the on-line SPEA Connect Program.

**Required Courses (9 credit hours)**

SPEA-F 526	Financial Management for Nonprofit Organizations	(3 cr.)
SPEA-N 522	Human Resource Management in Nonprofit Organizations	(3 cr.)

SPEA-N 525	Management in the Nonprofit Sector	(3 cr.)
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**Electives (6 credit hours)**

Two additional SPEA graduate courses are selected with the approval of the student's advisor. A sampling of current course titles includes:

- Nonprofit and Voluntary Sector
- Ethics and Values of Philanthropy
- Fund Development for Nonprofit Organizations
- Public Relations in Nonprofits
- History of Philanthropy in the West

Students interested in continuing for the Master of Public Affairs (M.P.A.) should consider selecting the electives from the nonprofit management concentration.

**Certificate in Public Budgeting and Financial Management**

The Certificate in Public Budgeting and Financial Management is a 15 credit hour program for those seeking graduate training in the fundamentals of budgeting and finance for government and nonprofit organizations. It is designed for pre-career students, including graduate students in other disciplines who seek to additional capacity-building in their educational program, and for in-service professionals who seek additional expertise in their work or who plan to change their professional roles. The program is for those who wish to acquire additional knowledge and skills in public financial management and control, governmental or nonprofit accounting, and public expenditure planning, management, and control. This certificate is also available to students in the on-line SPEA Connect Program.

**Required Courses (9 credit hours)**

SPEA-F 542	Governmental Financial Accounting and Reporting	(3 cr.)
<b>or</b>		
SPEA-F 526	Financial Management for Nonprofit Organizations	(3 cr.)
SPEA-F 560	Public Finance and Budgeting	(3 cr.)
SPEA-V 517	Public Management Economics	(3 cr.)

**Electives (6 credit hours)**

Select two from the following courses:

SPEA-F 609	Seminar in Revenue Theory and Administration	(3 cr.)
SPEA-F 610	Seminar in Government Budget and Program Analysis	(3 cr.)

SPEA-F 667	Seminar in Public Capital and Debt Theory	(3 cr.)
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### Certificate in Public Management

The Certificate in Public Management Program is a 15 credit hour program of study in public management. The certificate program is flexible enough to be adapted to the needs of precareer and in-service individuals. Graduate students in other disciplines can use the program to supplement their primary fields with course work in public management, possibly using the certificate courses as part or all of a doctoral or master's degree minor. Career employees of public and private sector agencies seeking courses in public management, and especially those changing from professional or technical roles to managerial roles, find the certificate program beneficial. This certificate is also available to students in the on-line SPEA Connect Program.

### Required Courses (9 credit hours)

SPEA-F 560	Public Finance and Budgeting	(3 cr.)
SPEA-M 561	Public Human Resources Management	(3 cr.)
SPEA-V 502	Public Management	(3 cr.)

### Electives (6 credit hours)

Two additional SPEA graduate public affairs courses approved by the program director.

Note: Students interested in continuing on for the Master of Public Affairs degree should consider electing the two elective courses from the M.P.A. core; one of the courses recommended is V 506 Statistical Analysis for Effective Decision Making.

### Certificate in Social Entrepreneurship

The Certificate in Social Entrepreneurship is an 18 credit hour program of study. The certificate is a cooperative program between the School of Public and Environmental Affairs and the Kelley School of Business and is available only for students enrolled in the M.P.A. or M.B.A. programs. The Social Entrepreneurship Certificate prepares students for innovatively approaching public needs with a combination of entrepreneurial practices and social purposes— through the for-profit, nonprofit, and governmental sectors.

### Required Courses (6 credit hours)

SPEA-V 559	Principles and Practices of Social Entrepreneurship	(3 cr.)
BUS-W 508	Social Entrepreneurship	(1.5 cr.)
BUS-W 510	Sustainability and Green Business	(1.5 cr.)

### Electives (9 - 12 credit hours)

Nine credit hours required from list below, or other courses, as approved by directors of the certificate program. At least 3 credit hours must be taken at school other than one in which student is enrolled

AADM-Y 511	Performing Arts Center Management	(3 cr.)
AADM-Y 525	Museum Management	(3 cr.)
AADM-Y 530	Audience Development and Marketing the Arts	(3 cr.)
AADM-Y 535	Arts Administration and the Cultural Sector	(3 cr.)
SPEA-F 510	Government Regulation in Market Economics	(3 cr.)
SPEA-F 526	Financial Management for Nonprofit Organizations	(3 cr.)
SPEA-F 542	Government Financial Accounting and Reporting	(3 cr.)
SPEA-F 560	Public Finance and Budgeting	(3 cr.)
SPEA-I 516	Public Management Information Systems	(3 cr.)
SPEA-I 519	Database Management Systems	(3 cr.)
SPEA-L 568	Management of Local Government Services	(3 cr.)
SPEA-L 622	Seminar in Urban Economic Development	(3 cr.)
SPEA-M 504	Public Organizations	(3 cr.)
SPEA-M 547	Negotiation and Dispute Resolution for Public Affairs	(3 cr.)
SPEA-M 561	Public Human Resources Management	(3 cr.)
SPEA-M 602	Strategic Management of Public and Nonprofit Organizations	(3 cr.)
SPEA-N 521	The Nonprofit and Voluntary Sector	(3 cr.)
SPEA-N 522	Human Resource Management in Nonprofit Organizations	(3 cr.)
SPEA-N 525	Management in the Nonprofit Sector	(3 cr.)
SPEA-N 544	Marketing for Nonprofit Organizations	(3 cr.)

SPEA-N 558	Fund Development for Nonprofits	(3 cr.)
SPEA-P 539	Management Science for Public Affairs	(3 cr.)
SPEA-P 541	Benefit Cost Analysis	(3 cr.)
SPEA-P 562	Public Program Evaluation	(3 cr.)
SPEA-V 502	Public Management	(3 cr.)
BUS-F 509	Financial Analysis for Corporate Decisions	(1.5 cr.)
BUS-F 517	Venture Capital and Entrepreneurial Finance	(1.5 cr.)
BUS-J 501	Developing Strategic Capabilities	(1.5 cr.)
BUS-M 511	Marketing Performance and Productivity Analysis	(1.5 cr.)
BUS-M 512	Marketing Strategy (with M511, 4.5 cr.)	(1.5 cr.)
BUS-M 521	Implementation of Marketing Strategies	(1.5 cr.)
BUS-P 510	Service Operations	(1.5 cr.)
BUS-P 552	Project Management	(1.5 cr.)
BUS-P 561	Supply Chain Management and Technologies	(1.5 cr.)
BUS-S 509	Information Systems in Modern Organizations	(1.5 cr.)
BUS-S 510	Managing the Net-Enabled Organization	(1.5 cr.)
BUS-S 520	Managing and Designing Data Base Systems	(1.5 cr.)
BUS-W 503	Creativity and Innovation: Generating New Venture Ideas	(1.5 cr.)
BUS-W 504	New Venture Business Planning	(1.5 cr.)
BUS-W 506	Entrepreneurship Leadership and Practice	(1.5 cr.)
BUS-W 511	Venture Strategy	(1.5 cr.)
BUS-W 516	Organizational Development	(1.5 cr.)

	and Change: The Change Agent	
BUS-W 532	Organization Design Alternatives	(1.5 cr.)
BUS-W 574	Corporate Entrepreneurship and Innovation	(1.5 cr.)

### Social Entrepreneurship Internship (0-3 credit hours)

An internship practicum is also required that can be satisfied by SPEA-V 585 Practicum in Public Affairs (0-3) credit hours, BUS-X 523 and BUS-X 524 Enterprise Experience I and II, or approved experiential credit. The internship consists of:

- A two-month project development period the semester before the internship.
- A three-month full-time (40 hour per week) internship on site at the host organization, agency, or business to execute the project.
- A final evaluation of the project, related to social entrepreneurial approaches.

## Master of Arts in Arts Administration Dual Degree Program

[Master of Arts in Administration-Master of Arts in Folklore and Ethnomusicology \(M.A.A.A.-M.A.F.E.\)](#)

### Master of Arts in Arts Administration Dual Degree Program

The Indiana University Bloomington, School of Public and Environmental Affairs and the Department of Folklore and Ethnomusicology offers a dual degree, Master of Arts in Arts Administration and Master of Arts in Folklore and Ethnomusicology. This degree is intended for a range of students, especially, although not exclusively, those interested in leadership and administration in museums and festivals. The two programs are each of national and international distinction. The dual degree gives students an opportunity over the course of three years of full time study (with a total of 60 credit hours), to earn degrees from each of these distinguished programs, combine classroom and practicum work from both programs.

### Application and Admission

Students must apply for admission to the Master's Programs for both the Arts Administration program at the School of Public and Environmental Affairs and the Department of Folklore and Ethnomusicology. Admissions criteria established for each program must be met; acceptance into one program does not guarantee acceptance into the other. To graduate under the dual degree option, the two degrees must be awarded simultaneously.

### M.A. in Arts Administration (36 hours)

#### Program Requirements

Students are required to take the following courses:

AADM-Y 502	Introduction to Arts Administration and Organizational Behavior	(3 cr.)
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AADM-Y 504	Arts Organizations (3 cr.) in the Public and Private Sectors
AADM-Y 515	Financial (3 cr.) Management for the Arts
AADM-Y 525	Museum (3 cr.) Management
AADM-Y 530	Audience (3 cr.) Development and Marketing the Arts
AADM-Y 535	Arts Administration (3 cr.) and the Cultural Sector
AADM-Y 650	Seminar in Arts (3 cr.) Administration
BUS-L 575	Legal Issues in the (3 cr.) Arts
SPEA-N 558	Fund (3 cr.) Development for Nonprofits
and	One additional (3 cr.) course in Arts Administration
AADM-Y 550	Practicum in Arts (3 cr.) Administration
AADM-Y 750	Internship in Arts (3 cr.) Administration

### M.A. in Folklore and Ethnomusicology (24 hours)

For a complete list of folklore course options please visit <http://www.indiana.edu/~folklore/graduate/dualma.shtml>.

### Executive Education Program

The Executive Education Program is one of the most prestigious leadership programs in the nation. Offered through the School of Public and Environmental Affairs, the Executive Education Program works with the government, nonprofit agencies, and the private sector to prepare leaders and managers to meet today's challenges and anticipate tomorrow's opportunities.

The Executive Education Program offers graduate level programs for the United States Navy and nonprofit organizations. Graduate programs include the Master of Public Affairs (M.P.A.), the Public Management Certificate (P.M.C.), and the Nonprofit Management Certificate (N.P.M.C.).

In 1985, the Executive Education Program formed a partnership with the American Association of State Highway and Transportation Officials (AASHTO), the leading transportation organization in the United States. Together they created two institutes to challenge and educate transportation leaders, the National Transportation Leadership Institute and the Advanced Leadership Institute, two of the most influential leadership development programs for transportation officials.

In partnership with the Indiana Hospital Association (IHA), the Executive Education Program created a 10-course management curriculum leading to a Certificate in Healthcare Management. Through the IHA Management Institute, managers are equipped with the knowledge, skills, and abilities to help them lead their organizations

in a rapidly changing environment. Another partnership is with the Indiana Association of Cities and Towns (IACT). The Executive Education Program was engaged by IACT to develop and deliver professional development programs just for mayors from 2008–2011.

SPEA's Executive Education Program also offers customized leadership and management programs for local, regional, national, and international clients.

### Centers & Institutes

- The Institute for Development Strategies
- The Institute for Family and Social Responsibility
- IU Public Policy Institute
- IU Center for Urban Policy and the Environment
- IU Center for Criminal Justice Research
- The Transportation Research Center

### The Institute for Development Strategies

[The Institute for Development Strategies](https://spea.indiana.edu/institute-development-strategies/home.html), co-sponsored by the School of Public and Environmental Affairs, Office of Research, and the University Graduate School, is a university-wide research program linking faculty resources from various departments and campuses and integrating them with external projects and research being undertaken elsewhere in this country and in other countries. The Institute examines research-related problems in the field of entrepreneurship and economic development at local, national, and international levels. It focuses on strategies for entrepreneurship and economic development and conducts research on the causes and consequences of globalization. Additional information can be found at <https://spea.indiana.edu/institute-development-strategies/home.html>

### The Institute for Family and Social Responsibility

[The Institute for Family and Social Responsibility \(FASR\)](https://spea.indiana.edu/institute-family-social-responsibility/home.html) is located in the School of Public and Environmental Affairs. The FASR Institute focuses on social policy research and outreach activities. It's mission is to bring together the resources of citizens, governments, communities, and Indiana University to better the lives of children and families. Ongoing projects include serving as the editorial home of the Journal of Policy Analysis and Management. Recently completed projects have examined the effectiveness of two new e-government methods of distributing child support funded by the US Office of Child Support Enforcement; a US Agency for International Development project to enhance policy analysis capacity at the State University-Higher School of Economics in Moscow; an evaluation of EduTech, a series of high-tech innovations in education in Barbados, funded by the Inter American Development Bank; and the roles of faith-based organizations in the delivery of social services funded by the Joyce Foundation. Other projects have examined the impacts of welfare reforms, the adequacy of child support guidelines, community responses to the Temporary Assistance to Needy Families legislation, AIDS education for incarcerated youth, the homeless, and battered women. The institute serves as the National Child Support Enforcement Research Clearinghouse.

## IU Public Policy Institute

The IU Public Policy Institute is a collaborative, multidisciplinary research institute within the Indiana University School of Public and Environmental Affairs. The Institute serves as an umbrella organization for research centers affiliated with SPEA, including the Center for Urban Policy and the Environment and the Center for Criminal Justice Research. The Institute also supports the

Additional information about the IU Public Policy Institute, the Center for Urban Policy and the Environment, and the Center for Criminal Justice Research, can be found at [www.policyinstitute.iu.edu/](http://www.policyinstitute.iu.edu/).

### [IU Public Policy Institute](#)

334 N. Senate Ave., Suite 300  
Indianapolis, IN 46204-1708  
(317) 261-3010  
(317) 261-3050 (fax)

## IU Center for Urban Policy and the Environment

The IU Center for Urban Policy and the Environment is devoted to supporting economic success for Indiana and a high quality of life for all Hoosiers. An applied research organization, CUPE was created by the Indiana University School of Public and Environmental Affairs in 1992. The Center works in partnership with community leaders, business and civic organizations, nonprofits, and government. CUPE's work is focused on urban policy, intergovernmental cooperation, community and economic development, housing, environmental issues, and fiscal affairs research essential to developing strategies to strengthen Indiana's economy and quality of life.

### [IU Public Policy Institute](#)

334 N. Senate Ave., Suite 300  
Indianapolis, IN 46204-1708  
(317) 261-3000  
(317) 261-3050 (fax)

## IU Center for Criminal Justice Research

The IU Center for Criminal Justice Research works with public safety agencies and social services organizations to provide impartial applied research on criminal justice and public safety issues. CCJR provides analysis, evaluation, and assistance to criminal justice agencies; and community information and education on public safety questions. Created in 2008 by the Indiana University School of Public and Environmental Affairs, CCJR faculty and staff have worked with SPEA and the Center for Urban Policy and the Environment on criminal justice and public safety research projects dating back to 1992. Some of the issues CCJR addresses include crime prevention, violent crime, criminal justice systems, policing, traffic safety, and youth.

Additional information about the IU Public Policy Institute, the Center for Urban Policy and the Environment, the Center for Health Policy, and the Center for Criminal Justice Research, can be found at

### [IU Public Policy Institute](#)

334 N. Senate Ave., Suite 300  
Indianapolis, IN 46204-1708  
(317) 261-3000

(317) 261-3050 (fax)

## The Transportation Research Center

The [Transportation Research Center](#) was established in 1972 as the Institute for Research in Public Safety. Its purpose is to coordinate and facilitate SPEA's research objectives in transportation and related areas, including transportation safety, risk analysis and security, regulatory policy, energy, and the environment. Work in automobile safety focuses on crash investigation, occupant injury, and how these are mitigated with both active and passive safety systems. The center uses a staff of professional researchers, faculty, and graduate students in performing projects for government agencies and the private sector.

## Student Organizations & Services

### Organizations

SPEA Alumni Association

### Services

Business–SPEA Information Commons

Career Development Office

### Honor Societies

Alpha Phi Sigma

Pi Alpha Alpha

## SPEA Alumni Association

SPEA has a strong commitment to its alumni and considers them among our most valued resources. The SPEA Office of Alumni Relations strives to maintain lifelong connections with our network of over 32,000 alumni. When SPEA graduates join the Indiana University Alumni Association, they automatically become members of the SPEA Alumni Association. The mission of the SPEA Alumni Association is to inspire and cultivate dynamic interactions among alumni, the school, and current students for the betterment of SPEA and the professions it serves. Some activities of the Association include the Capitol Hill Colloquium, annual social gatherings in Indianapolis, Denver, Chicago and Washington D.C., and networking and educational opportunities for SPEA alumni- nationally and globally. The association is also a sponsor of the SPEA Magazine, our e-newsletter, and manages an endowed scholarship that is awarded annually to SPEA undergraduate and graduate students. The SPEA Alumni Association is governed by an elected board of directors comprised of SPEA Alumni who represent diverse academic and geographic backgrounds. For more information, please visit <https://spea.indiana.edu/career-development/alumni/index.html>

## Alpha Phi Sigma

Alpha Phi Sigma is the national criminal justice honor society. The society recognizes scholastic excellence by students in the field of criminal justice. It was founded in 1942 and was admitted to the Association of College Honor Societies in 1980. Membership of graduate students is limited to those who have a bachelor's degree in criminal justice or who are currently doing graduate work in this field. A minimum grade point average of 3.4 is required of graduate students seeking membership in Alpha Phi Sigma.

## Pi Alpha Alpha

Pi Alpha Alpha is the national honor society for schools of public affairs and administration. The society acknowledges outstanding scholarship and contributions to these fields. It was founded in 1972 by the National Association of Schools of Public Affairs and Administration (NASPAA) to honor those whose performance in public affairs has been distinguished. Indiana's is a charter chapter of Pi Alpha Alpha. Membership in Pi Alpha Alpha is comparable to membership in Phi Beta Kappa for liberal arts graduates. A person evaluating credentials in the various fields of public service should recognize the professional quality such a membership represents.

SPEA graduate students can qualify for membership by being in the top 20 percent of their M.P.A. or M.S.E.S. class, with a minimum overall grade point average of 3.5, a 3.7 in at least 50 percent of all required courses, and by having completed 50 percent of the required course work (i.e., 24 to 30 credit hours).

Any doctoral student who has successfully passed the qualifying examination is eligible. Alumni are eligible if they meet all the requirements of student membership but graduate before induction by the Indiana chapter.

Any full-time faculty member of a NASPAA-member institution that offers course work in a public affairs or administration degree program and at which a Pi Alpha Alpha chapter is located is eligible for membership. Honorary membership is available to any person who has achieved distinction in public administration and who has the qualities that Pi Alpha Alpha fosters.

## Career Development Office

SPEA's Career Development Office (CDO) delivers a wide range of career/professional development programs and services for graduate students. Experienced Career Advisors meet individually with students as they begin their respective first semesters to plot their career timelines and orient them to the multiple career resources and services available to them: Individual career advising

- Individual career advising
- Self-assessment tools, such as the MBTI and StrengthsQuest
- CDO workshops and employer information sessions
- Critiquing of resumes, cover letters, and related application materials
- Assist with the formulation of internship and job-search strategies
- Training in career/industry research and interviewing
- Networking with professionals, including SPEA Alumni/ae and employers
- Individual strategies for making on- and off-campus recruiting opportunities work effectively
- Access to SPEACareers, our internship/job database specifically designed to serve SPEA students
- Quiet interview rooms available for Skype and phone interviews with employers
- An extensive collection of web-based career/ internship resources that covers opportunities in each area of academic concentration at SPEA

The CDO's Employer Relations team continually cultivates strong recruiting relationships with key employers representing the Public, Nonprofit, and Private sectors of

the U.S. and global economies. Many of these employers include SPEA Alumni/ae who actively participate in signature CDO recruiting and networking events, both on- and off-campus. Our annual Career Networking and Exploration Trips (CNETs) to Washington DC, Chicago, and Indianapolis attract hundreds of alumni and employer representatives, all of which have a vested interest in connecting with current students. Each fall the CDO stages its annual Career Expo to bring employers and SPEA students together to share internship and job opportunities. Add to these our numerous on-campus career and internship information sessions with alumni and recruiters – the CDO and SPEA community serves as an important conduit to your post-SPEA career direction.

Bloomington Campus  
SPEA Career Development Office  
SPEA 200  
812.855.9639

speacare@indiana.edu

For answers to specific questions on the Indianapolis campus, students may contact:

Career and Employment Services  
Business/SPEA 2010  
(317) 274-2554

## Business–SPEA Information Commons

The Business-SPEA Information Commons (IC) is part of the IU Libraries system in Bloomington. It provides collections, services, and facilities to support the teaching, learning, and research of the Kelley School of Business and the School of Public and Environmental Affairs. The IC provides access to an extensive collection of print and digital resources. Detailed information about the Business-SPEA IC can be found at its [website](#).

## Academic Policies & Procedures

The following academic regulations of the School of Public and Environmental Affairs are applicable to all graduate programs. Additional campus-specific policies may also apply.

### Confidentiality of Student Records

In accordance with Indiana University regulations, student records are confidential and are available to other persons only under specific conditions as outlined in university regulations.

### Student Rights

Rights of students are included in a handbook available on each campus. Due process is followed in the event of disciplinary or other actions.

### Student Responsibility

Students are responsible for planning their own academic programs and for meeting the requirements for their degree or certificate programs. Faculty and academic advisors may assist students in meeting their responsibilities.

### Applicability of Degree and Certificate Requirements

Students may choose to complete either the specific degree and certificate requirements published in the

appropriate bulletin at the time of entry into the university or those in the bulletin current at the time of graduation.

### Residency Requirements—Master's and Certificate Programs

The campus at which a student completes the majority of required course work will certify and award the degree or certificate, provided the campus is authorized to grant that degree or certificate. The student must have been admitted by the SPEA campus awarding the degree or certificate.

### Residency Requirements—Doctoral Programs

Students must obtain prior approval from the SPEA director of their specific doctoral program for any courses they propose to take at another Indiana University campus. The director of the Ph.D. program follows the policies of the University Graduate School relating to work done at Indiana University campuses other than Bloomington.

### Academic Standing

Students are considered to be in good standing during any semester in which their academic grade point average is at least 3.0 (B) for both their last semester's course work and for the cumulative average of all course work completed. Only courses with grades of C (2.0) or above may be counted toward degree requirements. However, grades below C are used in computing the cumulative grade point average, even if a course is repeated and a higher grade is earned.

### Academic Probation

Students are placed on probation following a semester in which their cumulative or semester grade point average falls below 3.0. Students on probation or admitted provisionally are required to attain an average of at least 3.0 for all work completed by the end of the next semester. Failure to do so is cause for dismissal.

### Grading System

The official grading system of the School of Public and Environmental Affairs is as follows:

A = 4.0	D+ = 1.3
A- = 3.7	D = 1.0
B+ = 3.3	D- = 0.7
B = 3.0	I = Incomplete
B- = 2.7	F = Failed
C+ = 2.3	W = Withdrawn
C = 2.0	R = Deferred
C- = 1.7	NR = No grade reported

Only grades of C (2.0) or better can be used toward graduation requirements.

### Incomplete

A grade of Incomplete must be removed within the time specified by the instructor of the course; if not, the grade automatically changes to an F one calendar year after the Incomplete was given.

### Withdrawals

Because deadlines for withdrawal from courses may vary by campus and/or school, students should check with the

current campus Schedule of Classes to verify deadlines and procedures.

### Intercampus Transfer

Students enrolled in the School of Public and Environmental Affairs at any campus of Indiana University may transfer to SPEA on another campus, provided they are in good standing.

### Transfer of Credit

A maximum of 9 credit hours of appropriate graduate course work with grades of B (3.0) or higher may be transferred from degree programs of other academic units within Indiana University or other accredited colleges and universities and applied to SPEA master's level degree programs. The transfer must be approved by the appropriate graduate program director.

### Credit Earned in IU Nondegree Status

Not more than 12 hours of graduate credit completed as a nondegree student may be credited toward a SPEA graduate degree. Not more than 9 hours of SPEA graduate credit earned as a nondegree student may be credited toward SPEA certificate programs.

### Course Waivers

Requests for waiver of specific courses or requirements on the basis of previous course work are to be submitted in writing to the appropriate faculty member or program director.

### Program Deviations

Requests for deviation from SPEA programs or school requirements are granted only by written approval from an academic advisor and a campus or program director. Disposition by the SPEA program or campus director is final.

### Minimum Credit Hours

To qualify for the M.P.A. or M.S.E.S. degree, students must complete a minimum of 24 of the required 48-51 credit hours of graduate SPEA courses at Indiana University. Credit granted to transfer students and those exercising the Mid-Career Option or the Prior Professional Experience does not reduce the number of courses taken in SPEA below this 24 credit hour minimum.

### Academic Integrity

Academic integrity requires that students take credit only for their own ideas and efforts. Misconduct, including cheating, fabrication, plagiarism, interference, or facilitating academic dishonesty, is prohibited because it undermines the bonds of trust and cooperation among members of this community and between us and those who may depend on our knowledge and integrity. Complete details are contained in the Indiana University *Code of Student Rights, Responsibilities, and Conduct*.

### Academic Appeals

Students may appeal academic decisions made by SPEA faculty members. Attempts to resolve such issues should be made first at the class/instructor level. If necessary, written appeals should be submitted to relevant program directors. Appeals must be submitted before the last day of classes in the semester following the point at which the events in question occurred.

## Graduate Courses

- Arts Administration
- Criminal Justice - For a complete list of courses please refer to the Indianapolis SPEA bulletin at <http://bulletins.iu.edu/iupui/2016-2017/schools/spea/courses/graduate.shtml>.
- Environmental Science
- Public Affairs

## Arts Administration Courses

### AADM-Y 500 Topics in Arts Administration (1-6 cr.)

Selected research and discussion topics organized on a semester by semester basis.

### AADM-Y 502 Introduction to Arts Administration and Organizational Behavior (3 cr.)

This course introduces graduate students to the professional world of arts administration, its many disciplines, its dramatically and rapidly changing landscape, and the nature and culture of its organizations. Major concepts of organizational behavior by employees, managers, and organizations themselves are discussed. Students practice several roles within organizations.

### AADM-Y 504 Arts Organizations in the Public and Private Sectors (3 cr.)

The internal structure and governance of arts organizations in the commercial, nonprofit and public sectors (Ministries of Culture, and arm's length arts councils), as well as hybrid organizations, and contracts between types of organizations.

### AADM-Y 505 Programming the Performing Arts (3 cr.)

This course examines how programming relates to marketing and public relations; the role of programming in the public and professional identity of artists and arts organizations; the external factors that condition program choice; and how programming affects relationships with society and the arts community on local, national, and international levels.

### AADM-Y 506 Curating in Galleries and Museums (3 cr.)

This course explores the idea and practice of curating, from displaying a single object to organizing a complex exhibition. Course provides a body of knowledge and helps students develop skills to curate and evaluate the role of curation and display of objects - all essential to museum and gallery management.

### AADM-Y 508 Performing Arts Organization Management (3 cr.)

This course explores various aspects of managing performing arts organizations. Topics covered include cultural policy; governance, capacity building and personnel management; role of development, fundraising, and grant writing; programming, audiences and marketing; strategic planning; financial management; capital planning; program evaluation; non-profit status, tax and legal issues for organizations and education.

### AADM-Y 511 Performing Arts Center Management (3 cr.)

This course focuses on the aspects of managing a performing arts program and facility. Indiana University Auditorium and other performing arts facilities will serve as laboratories to provide you with a balance between academic and real-world issues.

### AADM-Y 515 Financial Management for the Arts (3 cr.)

The course introduces students to the role of financial management in the modern not-for-profit organization. This course covers applications of budgeting, financial and managerial accounting principles, and procedures and financial analysis for nonprofit organizations. Materials covered should be considered required knowledge for the mid- to senior-level arts administrator.

### AADM-Y 520 Cultural Property Management (3 cr.)

The courses examines cultural property management issues such as the missions, policies, and procedures of institutions large and small, public and private. Field trips, lectures, and discussions will provide an understanding of museums, cultural foundations, and the commercial art world.

### AADM-Y 522 IT Applications for the Arts (3 cr.)

Teaches Arts Administration professionals how to use computer applications to create printed, web based and multimedia materials to promote effective communications. Provides instruction and practical hands-on experience in design theory, page layout, usability, accessibility, digital photo editing, graphics, and desktop and web publishing to create promotional and informational materials.

### AADM-Y 525 Museum Management (3 cr.)

General management of art and historical museums. The museum, its legal status, the building, management and staff, goals and objectives, fund raising and budgeting, collections and exhibitions, education and community outreach.

### AADM-Y 526 Art and Social Change (3 cr.)

Art & Social Change traces the development of art practices as a vehicle for social change from the Civil Rights movement to the present day and asks students to envision a community cultural development project of their own. Augusto Boal's innovative community building techniques are used throughout the class.

### AADM-Y 530 Audience Development and Marketing the Arts (3 cr.)

Course includes basic marketing principles as well as audience development and marketing strategy. In addition to introducing the fundamentals of marketing, it fosters and encourages the thought processes necessary to market the products/services that are creative arts.

### AADM-Y 535 Arts Administration and the Cultural Sector (3 cr.)

The market structure of the cultural sector, especially the implications of the differences between artistic goods and other goods and services. Topics include the process by which artistic creations pass through various "gatekeepers" en route to the customer, and the structure of contracts in creative industries.

### AADM-Y 540 Computer Applications for the Arts (1.5 cr.)

Computer Applications concentrates on acquiring usable skills with applications found in the Microsoft Office XP suite. Course offers the general management professional an overview of technology itself and the technology management issues likely to be encountered in professional practice.

### AADM-Y 550 Practicum in Arts Administration (1-3 cr.)

Managerial and administrative experience in three of six arts groups: Musical Arts Center, Department of Theatre

and Drama, IU Auditorium, IU Foundation, IU Art Museum, or Mathers Museum.

#### **AADM-Y 551 Cultural Planning and Urban**

**Development (3 cr.)** An introduction to research and practice concerning the intersection of the arts and urban development. Students will gain an understanding of how scholars view the arts and culture in the context of urban development and how local governments and cultural leaders currently use the arts in urban development initiatives.

#### **AADM-Y 558 Fund Development for Nonprofit**

**Organizations (3 cr.)** This course will review the historic philanthropic landscape for/examine the different sources of donations needed to complete the contributed revenue picture for nonprofit organizations, concentrating on those operating in the arts and culture sector. We will explore strategies for building and increasing contributed revenue inside organizations, concentrating on practical solutions.

**AADM-Y 559 Public Policy and the Arts (3 cr.)** This course considers cultural policy in the U.S. and elsewhere. Topics include the ends and means of government funding for the arts, multiculturalism, freedom of expression, copyright, other legal rights of artists, international trade in cultural goods, and international treaties on cultural diversity.

**AADM-Y 562 Legal Issues in the Arts (3 cr.)** This course surveys key practical and substantive legal concepts - contracts, artists' rights, copyright, licensing, trademarks, censorship, types of business organizations - to provide aspiring arts professionals with a basic understanding of current substance and future trends of art law. Related ethical, social policy, and political concerns will be examined.

#### **AADM-Y 564 Economics and Administration of Artistic Organizations (3 cr.)**

In this course students analyze the unique challenges facing arts organizations in the public, nonprofit, and for-profit sectors. Among other topics, the course deals with the multiple and often-conflicting goals faced by arts organizations, consumer demand and price setting, experimentation and innovation, and setting the rules for decision-making and oversight.

#### **AADM-Y 650 Seminar in Arts Administration (3 cr.)**

Seminar involving the promotion of the arts: planning, management, labor relations, fundraising, funding sources, communications, and similar topics in relation to arts centers, museums, and performing organizations. Course includes guest speakers.

#### **AADM-Y 680 Readings in Arts Administration (1-3 cr.)**

P: consent of instructor and departmental chairperson. Supervised readings in arts administration.

#### **AADM-Y 690 Independent Study in Arts**

**Administration (1-3 cr.)** P: consent of instructor and department chairperson.

#### **AADM-Y 750 Internship in Arts Administration**

**(1.5-3 cr.)** The internship shall consist of at least 280 hours in an arts related organization. Students may take the internship during the summer following the second semester of course work or in the spring following the third semester of course work.

## **Environmental Science Courses**

**SPEA-E 410 Introduction to Environmental Toxicology (3 cr.)**

**SPEA-E 431 Water Supply and Wastewater Treatment (3 cr.)**

**SPEA-E 451 Air Pollution and Control (3 cr.)**

**SPEA-E 452 Solid and Hazardous Waste Management (3 cr.)**

**SPEA-E 460 Fisheries and Wildlife Management (3 cr.)**

**SPEA-E 461 Fisheries and Wildlife Management Laboratory (3 cr.)**

#### **SPEA-E 501 Human Behavior and Energy**

**Consumption (3 cr.)** We face many barriers that prevent us from conserving energy and other natural resources. This course is aimed at decreasing energy use independent of top down regulations. Students will understand the nature of energy, the importance of human behavior, and how to create, and evaluate behavioral change.

**SPEA-E 502 Water Quality Modeling (3 cr.)** This course teaches students to construct and apply water-quality models of aquatic systems, with primary focus on streams, lakes, and estuaries. Students learn to combine physical, chemical, and biological processes into models, and use their models to forecast water quality as a function of changing pollutant loading and management goals.

#### **SPEA-E 503 Natural Gas: Technical and Policy**

**Challenges (3 cr.)** The principal goal of this course is to convey to students the multiple factors that are associated with the formational processes, physical and chemical characteristics, exploration and development dynamics, transportation and energy conversion technologies, along with some of the environmental policy implications associated with this energy resource; natural gas.

#### **SPEA-E 510 Environmental Regulations and**

**Compliance (3 cr.)** This course provides an overview of the principles and practice of environmental law, regulation, and compliance. Topics include introduction to the U.S. regulatory framework, survey of regulations and statutes, and problems/case studies for applying legal and regulatory concepts.

#### **SPEA-E 511 Sustainability Assessment (3 cr.)**

There has been a proliferation of various metrics that measure the sustainability of products, services, buildings, and institutions. Three are developed: life cycle analysis (ISO14040), the USGBC's LEED certification, and the AASHE's STARS metric. Various uses of these metrics to design products, certify performances, and improve outcomes will be evaluated.

#### **SPEA-E 512 Risk Communication (3 cr.)**

Risk communication is the means by which technical information is communicated to others (the public included), especially in the context of making decisions about environmental-related policy, such as siting of a landfill. The course emphasizes both theory (in lectures) and practical experience through developing and acting in role-play scenarios.

#### **SPEA-E 515 Fundamentals of Air Pollution (3 cr.)**

The purpose of the course is to provide the student with

an understanding of the field of air pollution, including the behavior of the atmosphere and pollutants in the atmosphere, effects of air pollution, regulatory programs, engineering controls, and air quality management programs.

**SPEA-E 518 Vector-based Geographic Information Systems (3 cr.)** Geographic information systems using vector data structure. Vector GIS capabilities and uses. Data structure and file management of spatial data. Laboratory exercises using ARC/INFO software.

**SPEA-E 519 Applied Remote Sensing of the Environment (3 cr.)** Applications of remotely sensed data and raster geographic information systems in environmental research. Concepts of remote sensing. Image acquisition from different sensors ranging from aerial photography to various types of satellite imagery. Image processing and analysis. Raster geographic information systems. Raster-vector integration. Concepts of spatial analysis.

**SPEA-E 520 Environmental Toxicology (3 cr.)** An examination of the principles of toxicology and the toxicity resulting from environmental exposure to chemical substances.

**SPEA-E 521 PCBs, Dioxins and Flame Retardants (2 cr.)** History of toxic chemical environmental disasters: mercury & lead; Love Canal & hazardous waste; polychlorinated biphenyls in Bloomington & New York; dioxins (in Agent Orange, Missouri, & Italy); toxic torts; flame retardants (in Michigan & in babies, cats, dogs, & eagles); persistent pesticides (environmental trends & in farm-raised salmon); Deepwater Horizon oil spill.

**SPEA-E 522 Urban Forest Management (3 cr.)** Originally an outgrowth of arboriculture, urban forestry now encompasses the broader concepts of managing the trees, forests, and other natural resources of cities for ecological, economic, and social benefits. Lectures, discussion, and field projects will be supplemented by outside speakers. (IUB and Bloomington will be the field laboratory.)

**SPEA-E 523 Habitat Analysis - Aquatic (3 cr.)** This is a hands-on field course that combines the disciplines of ecology, natural history, and environmental policy to understand the habitat requirements of a variety of aquatic species. We will evaluate and measure various characteristics of the aquatic environment and determine the suitability of these characteristics or a variety of aquatic species.

**SPEA-E 524 Habitat Analysis - Terrestrial (3 cr.)** This is a hands-on field course that combines the disciplines of ecology, natural history, and environmental policy to understand the habitat requirements of a variety of terrestrial species. We will evaluate and measure various characteristics of the terrestrial environment and determine the suitability of these characteristics for a variety of terrestrial species.

**SPEA-E 526 Applied Mathematics for Environmental Science (2-3 cr.)** P: differential and integral calculus. Applications of mathematics to modeling environmental processes. Applied calculus, numerical analysis, differential equations.

**SPEA-E 527 Applied Ecology (3 cr.)** Ecosystem concepts in natural resource management. Techniques of ecosystem analysis. Principles and practices of ecological natural resource management.

**SPEA-E 528 Forest Ecology and Management (3 cr.)** P: SPEA-E 538 or V 506. C: SPEA-E 538 or V 506. Field and laboratory exercises in quantitative analysis of forest ecosystems. Sampling and data collection methodologies. Data analysis and interpretation. Concepts in forest ecology and forest management.

**SPEA-E 529 Application of Geographic Information Systems (3 cr.)** Conceptual and technical overview of geographic information systems (GIS). Applications in various fields of public affairs and environmental science.

**SPEA-E 532 Introduction to Applied Ecology (3 cr.)** This course provides an introduction to applied ecology for non-science majors.

**SPEA-E 533 Environmental Management Systems: ISO 14001 Based (3 cr.)** This course provides students with the knowledge and skills to establish or improve an environmental management system that is compatible with ISO (International Organizations for Standardization) 14001, an international, voluntary standard that is emerging as a best-management practice for environment.

**SPEA-E 534 Restoration Ecology (3 cr.)** P: SPEA-E 440 or SPEA-E 527 or permission of instructor. The development and application of ecological principles to restore or re-create ecological structure and function of terrestrial and aquatic ecosystems. This course covers basic concepts of ecosystem restoration, including development of energy flow and nutrient cycles, soil formation, mechanisms of species dispersal and colonization, and mutualistic relationships.

**SPEA-E 535 International Environmental Policy (3 cr.)** This course examines the forces in society alternately promoting and impeding cooperation in the environmental realm. Our inquiry is guided by four, interrelated course units: (1) international environmental law; (2) international political order; (3) the environment and global markets; and (4) sustainable development.

**SPEA-E 536 Environmental Chemistry (3 cr.)** P: one course in chemistry with lab. Gas law calculations, stoichiometry, steady and nonsteady state box models, stratospheric ozone, chemical kinetics, photochemical smog, greenhouse effect, CO<sub>2</sub> equilibria, chemodynamics, pesticides, and toxic metals.

**SPEA-E 537 Environmental Chemistry Laboratory (3 cr.)** P: SPEA-E 536 or consent of instructor. C: SPEA-E 536 or consent of instructor. Experimental work in environmental chemical analysis to demonstrate analytical methods and instrumentation used in environmental laboratories, having reference to air, water, and soil quality.

**SPEA-E 538 Statistics for Environmental Science (3 cr.)** P: calculus and introductory statistics. Data analysis and statistics for environmental research and policy-making. Logic and illogic hypothesis testing with emphasis on power. Sampling and design of experiments. Group comparisons, analysis of variance, regression.

**SPEA-E 539 Aquatic Chemistry (3 cr.)** The distribution and cycling of chemical components in natural and engineered systems. Emphasis is on practical aspects of aquatic chemistry. Graphical and computational methods, as well as chemical equilibrium modeling, will be used to solve applied problems in water chemistry.

**SPEA-E 540 Wetlands Ecology and Management (4 cr.)** This course focuses on structural and functional characteristics of wetlands and their importance as a natural resource to society. Topics include characteristics to identify and classify wetlands, adaptations for living in wetlands, community structure, ecosystem processes, functions and values. Management of wetlands includes jurisdictional delineation, wetland assessment, and hydrogeomorphic assessment.

**SPEA-E 541 Controversies in Environmental Health (3 cr.)** Research, presentation, writing, and argumentation skills will be developed using a debate format. The course focuses on topics related to environmental health and the health of the environment.

**SPEA-E 542 Hazardous Materials (3 cr.)** Provides a technical basis for managing hazardous materials. Topics of discussion include properties and chemistry of hazardous materials; recognition of potential hazards associated with the use, storage, and transport of these materials; emergency and spill response; health effects; and transportation regulations.

**SPEA-E 543 Environmental Management (3 cr.)** Introduces advanced management concepts needed for environmental professionals by increasing their understanding regarding: 1) How implementing program, resource and political management relates to environmental issues; 2) the organizational and legal structure/function of environmental management in the United States; and 3) how professionals develop a strategic implementation approach toward successfully managing the environment.

**SPEA-E 544 Subsurface Microbiology and Bioremediation (3 cr.)** P: BIOL-M 310 or BIOLM 350; CHEM-C 126. This course explores how microorganisms and microbial processes affect the degradation of organic and inorganic pollutants in the subsurface. Topics include measurements of subsurface microbial activity, thermodynamics and biochemistry of degradation processes, degradation kinetics, and the control and enhancement of these processes in environmental matrices.

**SPEA-E 545 Lake and Watershed Management (3 cr.)** Students will learn to apply basic limnological principles to diagnose lake and watershed problems, to understand lake response to pollution, to identify appropriate management solutions, and to predict lake response to management.

**SPEA-E 546 Stream Ecology (3 cr.)** P: SPEA-E 556. Advanced limnology course that explores patterns and processes characterizing stream ecosystems. Takes a holistic approach that includes: physical, chemical and biological stream characteristics; watershed patterns; and stream processes (trophic dynamics, colonization and dispersal, community dynamics, and responses to

change). A four-hour weekly lab and group project develop necessary analytical skills.

**SPEA-E 547 Applied Earth Science (3 cr.)** Principles of the earth sciences and their applications to environmental analysis and management. Identification, quantification, and analysis of critical components of watershed systems. Interaction of human activities with the physical environment.

**SPEA-E 548 Applied Earth Science Laboratory (3 cr.)** Principles and methods of sampling, collection, measurement, analysis, and interpretation of data concerning processes and features of the physical environment. Students will become familiar with field and laboratory equipment within the context of research projects. Emphasis is placed on practical application of basic techniques to real problems.

**SPEA-E 549 Environmental Planning (3 cr.)** Concepts and methodologies in environmental planning. The planning process. Topics may include environmental impact assessment, economic approaches to environmental decision making, use of computer models in environmental planning, geographic information systems in environmental planning, environmental perception, and construction of environmental indices. Team projects with planning agencies.

**SPEA-E 552 Environmental Engineering (3 cr.)** Concerned with biological, chemical, physical, and engineering knowledge essential to the achievement of environmental quality objectives. Theory and design of unit operations and processes for air, water, and land pollution abatement. Emphasis on water quality control, industrial wastewater treatment, and solid waste management.

**SPEA-E 553 Creation and Solution of Environmental Models (3 cr.)** Description of the environmental system in terms of steady-state and nonsteady-state material and energy balances. Formulation of the balances as differential equations with appropriate boundary conditions, solution techniques.

**SPEA-E 554 Groundwater Flow Modeling (3 cr.)** Fundamentals of groundwater flow modeling demonstrated through exercises in one-dimensional and radial flow. Two-dimensional flow is treated by use of a semianalytic approach. Alternative modeling techniques, such as finite elements and finite differences, are discussed. Streamline tracing is discussed to study spreading of contaminants.

**SPEA-E 555 Topics in Environmental Science (1-3 cr.)** Selected research and discussion topics in environmental science. Usually organized in a seminar format.

**SPEA-E 556 Limnology (4 cr.)** P: a undergraduate course in biology Study of inland waters, including lakes, reservoirs, and rivers. Course covers physical, chemical, and biological aspects of aquatic ecology, including the impacts of human activities on inland waters. We have two 75-minute lectures per week, along with one 4-hour lab each week.

**SPEA-E 557 Conservation Biology (3 cr.)** P: a 300 level ecology course. Ecological principles associated with rare species and with biodiversity, laws and statutes used to conserve biodiversity, and land and species management

practices. Our aim is to understand scientific and political complexities of conservation biology, and to study different methods used to conserve living resources and resolve conflicts associated with conservation.

**SPEA-E 559 Field Techniques in Ecology (3 cr.)** P: one semester of statistics. Course provides an introduction to field research on ecology. Field labs teach techniques associated with geographic and map work, population estimation, habitat measurement in a variety of settings, and soil sampling. Indoor work covers descriptive univariate and bivariate statistical techniques, data display, and report writing.

**SPEA-E 560 Environmental Risk Analysis (3 cr.)**

P: SPEA-E 538 or V 506, or consent of instructor. Methods of probabilistic risk analysis applied to environmental situations. Event trees, fault trees, toxicological estimation, ecological risk analysis. Social and psychological aspects of risk. Individual and group projects assessing some real environmental risk are an important part.

**SPEA-E 562 Solid and Hazardous Waste Management (3 cr.)**

The purpose is to provide students with a technical foundation in areas of solid and hazardous waste management which can be applied to the examination of policy options. Topics include characterization of the waste stream, regulations, health and environmental risks, liability issues, management technologies, and treatment and disposal options.

**SPEA-E 564 Organic Pollutants: Environmental Chemistry and Fate (3 cr.)**

P: SPEA-E 536 or permission of instructor. This course provides students with both a quantitative and intuitive understanding of the relationship between chemical structure, environmental properties, and the behavior of organic contaminants in the environment, particularly aquatic environments. Physical/chemical properties of organic chemicals, fate determining processes, and modeling concepts will be examined in detail.

**SPEA-E 570 Environmental Soil Science (3 cr.)**

Soil chemistry can affect forest and crop productivity, pollutant degradation, surface and groundwater quality, and other environmental processes. This course emphasizes chemistry of soil minerals and organic matter, mineral solubility, the soil biota, redox transformations and reaction kinetics, soil colloid and surface chemistry, and biogeochemical cycling of metals.

**SPEA-E 574 Energy Systems (3 cr.)** Graduate level course that introduces the basic technical and regulatory elements of energy systems including characteristics of primary sources, conversion technologies, environmental impacts and commercial/regulatory constraints.

**SPEA-E 579 Readings in Environmental Science (1-6 cr.)** Readings on selected topics in environmental science to be arranged with the individual instructor.

**SPEA-E 582 Overseas Topics in Environmental Science (0-15 cr.)** SPEA Abroad Graduate Program: study of selected topics in environmental science. Topics vary from semester to semester. May be repeated for credit.

**SPEA-E 589 Practicum in Environmental Science (0-6 cr.)** Professional experience in environmental

science with public agencies or private sector firms or organizations. Usually arranged through the Placement and Internship Office.

**SPEA-E 590 Energy Policy from a Nation-State Perspective (3 cr.)**

This course will examine national energy policies through the lens of basic theories of international relations. Case studies will examine specific countries in detail, as well as efforts at regional and international cooperation. Students will work in pairs preparing recommendations for the energy ministries of specific countries.

**SPEA-E 591 Climate Change Impacts on Natural Resources (3 cr.)**

Climate change impacts to species, ecosystems, and natural processes, including impacts that result from human responses to climate change. Includes science and policy aspects. Requires previous coursework in supporting science or policy.

**SPEA-E 620 Environmental Analysis Workshop (3 cr.)**

Projects in environmental analysis.

**SPEA-E 625 Research in Environmental Science (1-12 cr.)**

Research on selected topics in environmental science to be arranged with the individual instructor.

**SPEA-E 680 Seminar in Environmental Science and Policy (1-2 cr.)**

P: doctoral student status or consent of the instructor. A seminar series on current topics in environmental science and policy. This course can be repeated for credit for a maximum of 8 credit hours. This course can be repeated for credit for a maximum of 8 credit hours.

**SPEA-E 710 Advanced Topics in Environmental Science (1-3 cr.)**

P: consent of instructor. For advanced students. Topics will vary and will cover subjects not available in other courses. May be repeated with different topics for a maximum of 12 credit hours. May be repeated with different topics for a maximum of 12 credit hours.

**SPEA-E 782 Overseas (PH.D.) Topics in Environmental Science (0-15 cr.)**

P: consent of instructor. For advanced students. Doctoral Abroad Program; study of selected topics in environmental science. Topics vary from semester to semester. May be repeated for credit. May be repeated with different topics for a maximum of 12 credit hours.

**SPEA-E 890 Ph.D. Thesis: Environmental Science (1-12 cr.)** (S/F option available)

## Public Affairs Courses

**SPEA-D 548 US Foreign Policy and Third World Regimes (3 cr.)**

This course is designed to familiarize students with institutional actors, interest groups and issues that dominate American foreign policy toward Third World countries in the post-Cold War era.

**SPEA-D 573 Development Economics (3 cr.)**

This course will give students a firm understanding about developing economics and some of their pressing issues. It will provide conceptual, theoretical and empirical exposure on key topics, problems, policies and actors.

**SPEA-D 576 Approaches to Development (3 cr.)**

Examination of the application of development theory to the public sector. Topics include modernization theory, urbanization, development administration, community

development, ethnicity, ideology, and national planning. Area case study project to include problems of policy implementation in developing areas.

**SPEA-D 577 International Economic Strategies and Trade Policy (3 cr.)** Examination of topics in international economics as related to problems of economic development policy. Topics include international trade, comparative economic policy, economic integration, foreign aid investment, exchange rates, and international economic organizations.

**SPEA-D 578 Introduction to Comparative and International Affairs (3 cr.)** The purposes of this course are to enlighten future public professionals about the promises and challenges posed by globalization, and to introduce and examine major concepts and case material from the world of comparative and international affairs.

**SPEA-D 583 Conflict and Development (3 cr.)** This course will introduce students to the relationship between economic systems and political stability, with a focus on understanding why so many developing countries are also weak, fragile, or in conflict.

**SPEA-D 598 Governing and Leading in a Global Society (3 cr.)** This gateway course will increase student appreciation of the role of public affairs professionals in governance across multiple sectors of society within the global context. Students will learn norms associated with effective practice in public affairs and frame a professional development plan to acquire leadership skills to support these norms.

**SPEA-D 669 Economic Development, Globalization, and Entrepreneurship (3 cr.)** This seminar examines the link between globalization, entrepreneurship, and regional economic development. It utilizes state-of-the-art methodologies and theories to focus advanced graduate students on research topics in economic development policies.

**SPEA-D 681 Seminar in Development Policy and Management (3 cr.)** P: SPEA-V 575 and V 576, or consent of instructor. To explore linkages among policy analysis, management models, programs, and outcomes in a variety of development efforts in the less-developed countries. The primary focus is on empirical analysis of developing countries, with some attention to U.S. domestic ventures.

**SPEA-F 510 Government Regulation in Market Economies (3 cr.)** P: SPEA-V 517 or consent of instructor. An overview of government regulation and involvement in the private sector and of public policy consequences of government action in market economies. Analysis of case studies in business-government relations.

**SPEA-F 526 Financial Management for Nonprofit Organizations (3 cr.)** This course emphasizes a thorough understanding of the language and key concepts of nonprofit financial management. A working knowledge of the basic analytical tools used in financial decision making for nonprofit organizations will be examined through the use of computer software.

**SPEA-F 542 Governmental Financial Accounting and Reporting (3 cr.)** P: SPEA-V 560. C: SPEA-V 560. An introduction to the fundamentals of accounting in business, nonprofit, and public sectors. Intended only for

students without previous accounting courses. Primary emphasis is on municipal entity fund accounting, including the development and use of financial statements.

**SPEA-F 560 Public Finance and Budgeting (3 cr.)** The fiscal role of government in a mixed economy; sources of public revenue and credit; administrative, political, and institutional aspects of the budget and the budgetary process; problems and trends in intergovernmental fiscal relations.

**SPEA-F 567 Public Financial Administration (3 cr.)** Problems of financial management in governmental units; alternative revenue sources, financial planning, and control; cash debt management; and survey of modern expenditure management, control, and planning.

**SPEA-F 584 Tax Policy in Developing Countries (3 cr.)** This course will introduce students to the challenges afflicting developing countries as they seek to administer their tax systems and some of the policies that have been used to mitigate these problems.

**SPEA-F 591 Investments and Portfolio Management (3 cr.)** For M.P.A. students with interests in investment management and design of investment portfolios in the public and nonprofit sectors. Surveys the basic theory and practice of investment valuation; stocks, bonds, and hybrid securities; risk management; diversification; asset pricing models; and theory of tests of market efficiency.

**SPEA-F 609 Seminar in Revenue Theory and Administration (3 cr.)** P: SPEA-V 560. C: SPEA-V 560. This seminar examines the basic objectives and the political and economic aspects of tax administration. In the course of an examination of the interrelationships of tax policy, tax laws, and tax administration, the course reviews the major economic issues raised by types of taxes and user charges. The seminar also examines the fundamentals of tax legislation. Major emphasis is on state and local administration, although some federal problems will be covered.

**SPEA-F 610 Government Budget and Program Analysis (3 cr.)** P: SPEA-V 560. C: SPEA-V 560. Advanced study of management aspects of budgetary process. Special cases are analyzed and budget problem-solving exercises are utilized.

**SPEA-F 666 Public Revenue (3 cr.)** This course is designed to provide a foundation for policy-directed research into government revenue systems and the individual revenue sources entering into those systems. It includes both the nature of those sources and their administration.

**SPEA-F 667 Seminar in Public Capital and Debt Theory (3 cr.)** P: SPEA-F 560. C: SPEA-F 560. This seminar examines the options open to governments, especially state and local, and why they resort to debt finance. The issues raised by the alternatives are examined in detail. Among the topics are public authority debt, revenue bonds, methods of placement, lease-purchase finance, and maturity choice. In addition, management of idle cash balances will be considered.

**SPEA-F 668 Seminar in Public Budgeting (3 cr.)** This seminar will examine a body of literature dealing with public-sector resource allocation in the United States. Primary emphasis will be on the budgetary process,

the emergence of competing theories of budgeting, and contemporary budgeting research. Budgetary systems will be explored at the national, state, and local levels.

**SPEA-H 509 Financial Management Principles of Health Care (3 cr.)** Provides knowledge of corporate finance practice in health care organizations. Establishes and understanding of the basic elements of financial theory used to address service expansion or contraction, capital investment issues, developing business plans and working capital management.

**SPEA-H 524 Health Industry Regulation (3 cr.)** This course provides an overview of the management, economic and policy issues facing the pharmaceutical, biotechnology, and medical device industries. It also covers legal issues in hospital and other provider sectors as a secondary focus. Topics include R+D regulations, FDA approval, biotechnology, mergers and acquisitions, manufacturing and liability.

**SPEA-H 525 Health Economics for Policy and Management (3 cr.)** Economic principles play a key role in understanding/improving health policy and management. Health economics applies the tools of the discipline to questions in organization, delivery, and financing to understand health, the health care and health insurance systems, and to critically evaluate current policy debates in the US and globally.

**SPEA-H 526 Healthcare Finance (3 cr.)** The course focuses on important accounting and financial management principles and concepts relevant to health services and organizations. Through this class, you will learn to: (a) Apply basic financial management and accounting principles in healthcare and public health; (b) use statistical and analytical tools to measure and improve organizational performance.

**SPEA-H 527 International Healthcare Systems (3 cr.)** The course provides the student with an overview of basic healthcare systems currently employed around the world. The first half of the course will explore the basic types of healthcare systems/structures. The second half of the course will employ a country by country evaluation of world healthcare systems. The course will end with a look at applying an understanding of world healthcare systems to industry.

**SPEA-H 533 Industrial Hygiene (3 cr.)** Survey of technical and regulatory aspects of protecting the health and safety of workers. Topics include basic toxicology; skin, eye, and respiratory hazards; measuring hazardous atmospheres; ventilation systems; fire and explosion hazards; emergency responses; occupational hearing loss; radiation; prevention of accidents; cumulative trauma; and personal protective equipment.

**SPEA-H 549 Health Policy (3 cr.)** P: A good understanding of introductory micro-economics. Comprising an astounding one fifth of the economy and growing, the health sector provides a fascinating setting to study policy making in action. The class confronts major current US and international topic areas such as preventive behavior; medical technology; the health care delivery and payment systems; and health insurance reforms.

**SPEA-H 592 Global Health Issues and Management (3 cr.)** An overview of the theoretical underpinnings of, and current issues within, global health management. Topics include the impact of globalization on disease, health organization, program management, management of humanitarian events, and health system planning. The necessity of collective obligation and action for global health will be a recurring theme.

**SPEA-I 516 Public Management Information Systems (3 cr.)** This course focuses on the application of information systems concepts and tools to challenges and opportunities in the public sector. Topics covered will include current trends in information systems; managerial use of information systems; hardware, software, and telecommunications; systems development processes and practices; and strategic and policy issues in IS.

**SPEA-I 519 Database Management Systems (3 cr.)** This course provides students an in-depth knowledge of database design and management in public organizations. The students create a conceptual, logical, and physical design of databases; build models of data required by users with modeling formalisms and computer-aided software engineering tools; and design queries using leading database software packages.

**SPEA-I 611 Design of Information Systems (3 cr.)** P: SPEA-V 516 and V 519. C: SPEA-V 516 and V 519. Students in this course will learn the concepts, skills, methodologies, techniques, tools, and perspectives essential to successfully develop information systems for the public sector. To achieve this, students will learn how to conduct systems requirements analysis, translate them to process and logical models, and design the systems.

**SPEA-I 613 Implementation of Information Systems (3 cr.)** P: SPEA-V 516, V 519, and V 611. C: SPEA-V 516, V 519, and V 611. This course is intended to build on prior courses in information systems management. The course covers advanced topics in systems implementation and evaluation. Special emphasis is placed on evaluation of alternative systems designs and their implementation in operational settings of public agencies.

**SPEA-L 563 The Planning Process (1-3 cr.)** Seminar designed to familiarize students with planning ramifications of policy issues faced by governments. The focal topics selected for study will vary. Emphasis placed on identification and analysis of substantive issues, methods employed for resolution, and application of planning techniques for achieving goals.

**SPEA-L 564 Local Government Management (3 cr.)** This course deals with the professional management of local communities, with special attention to the forms, processes and policies of cities, towns and counties. Readings and case studies will focus on local government management relating to leadership, planning and operations.

**SPEA-L 568 Management of Local Government Services (3 cr.)** This course is intended to familiarize students with the basic practices, vocabulary and values of professional municipal service delivery through readings, cases, field visits, guest speakers, discussions, and written and oral exercises.

**SPEA-L 597 Land Use Planning (3 cr.)** The course examines the theoretical basis and practical need for land use planning. Emphasis is placed on the institutional context in which land use planning occurs. The course provides an in-depth analysis and exercise in plan preparations.

**SPEA-L 622 Seminar in Urban Economic Development (3 cr.)** P: SPEA-V 517 or course in urban economics or instructor's consent. Reading, discussion, and research into problems of urban economic development in the United States. Case study approach used to investigate job creation, financial incentives, development corporation, and other factors which have led to successful economic development plans and projects.

**SPEA-L 623 Seminar in Urban Management (3 cr.)**  
P: SPEA-V 561, V 564, V 567. This course is the required capstone course for all graduate students with a concentration in urban management. Course is combined with student's required internship. Students are assigned selected reading in current urban management issues as well as research projects and case studies on/in the communities they are serving.

**SPEA-M 504 Public Organizations (1-3 cr.)** This course focuses on the behavior and theory of public organizations in four areas: (1) individuals and groups in public organizations, (2) the design of public organizations, (3) organization-environment relations, and (4) interorganizational relations.

**SPEA-M 518 Intergovernmental Systems Management (1-3 cr.)** Discussion of theories and approaches to systems management, including responsibilities and tasks of public systems. Examination of intergovernmental relationships and intralocal governmental relationships, treatment of organizational and systems design, as well as planning, decision making, and control of public systems. Discussion of applications to services such as environment, health, and human services.

**SPEA-M 547 Negotiation and Dispute Resolution for Public Affairs (3 cr.)** Students will learn the skill of interest-based negotiation through role play and simulation. Students will learn about dispute resolution techniques such as mediation, arbitration, fact finding, early neutral evaluation, ombudsmanship, and facilitation. The course covers dispute resolution in federal government and in the context of public, environmental, labor, and business disputes.

**SPEA-M 561 Public Human Resources Management (1-3 cr.)** Analysis of the structure, operations, and design of public personnel systems, including government agencies and public enterprise. Relationships between public policy and personnel concepts, values, and operations considered.

**SPEA-M 569 Managing Interpersonal Relations (3 cr.)**  
P: SPEA-V 502. This course will teach students the theory and application of individual and group human behavior. Key interpersonal skills will be modeled expertly on videotape. Students will be expected to practice these key skills and receive feedback on their performance.

**SPEA-M 570 Public Sector Labor Relations (1-3 cr.)** An introductory overview of labor relations concepts within the framework of the public sector. The development,

practice, and extent of the collective bargaining process, as well as the administration of the labor agreement, will be examined for state agencies, local municipalities, and school districts.

**SPEA-M 575 Comparative Public Management and Administration (3 cr.)** Reading and discussion of case studies and comparative analyses of formal organizations, with emphasis on governmental bureaucracies, public corporations, and international organizations. Topics include bureaucratic environment and culture, technology and organizations, program evaluation, communication and decision making, and administrative structure and process.

**SPEA-M 602 Strategic Management of Public and Nonprofit Organizations (3 cr.)** P: SPEA-V502. Concepts, cases, and problem solving associated with the structure and process of strategic management in the public sector, broadly defined to include governmental and nongovernmental organizations. Concepts, cases, and problem solving associated with the structure and process of strategic management in the public sector, broadly defined to include governmental and nongovernmental organizations.

**SPEA-M 621 Seminar in Teaching Public and Environmental Affairs (2 cr.)** This course is designed for Ph.D. students in SPEA's public policy, public affairs, and environmental science programs. Course will focus on a number of topics equally relevant to those students currently teaching and to students who expect future teaching assignments. Emphasis on student/teacher interaction, interest, and ethics.

**SPEA-M 639 Managing Government Operations (3 cr.)** P: SPEA-V 502. This is an introductory survey of operations management. Emphasis is placed on the analysis, design, and management of operation systems using models from operations management. Readings, lectures, and structured exercises are used to present the models and demonstrate their application.

**SPEA-M 652 Managing Work Force Diversity in Public Organizations (3 cr.)** Explores and applies theoretical and empirical research from a management perspective on workforce diversity. Topics include theories and constructs pertaining to diversity, the work organizations, organizational postures toward workplace diversity, the interface between heterogeneity, work processes, and management practices; and the effects of heterogeneity on work-related outcomes

**SPEA-M 654 Public Program Management and Contracting (3 cr.)** An examination of theories, concepts, and processes concerning multi-actor program implementation and alternative forms of service delivery. Focus will be on the problems and challenges public managers face in designing and managing contractual relationships, networks, and other complex implementation structures.

**SPEA-M 662 Seminar in Accountability and Performance (3 cr.)** Examines the problems of measuring performance and establishing accountability in publicly sponsored institutions and organizations. Concepts are given concrete application through careful investigation

of attempts to measure performance and productivity in activities that cross public, private, and nonprofit sectors.

**SPEA-M 671 Public Organization and Management I (3 cr.)** This seminar focuses on management theory in the public sector. Subjects include historical development, major questions in theory and practice, managerial decision making, and managerial effectiveness.

**SPEA-M 672 Public Organization and Management II (3 cr.)** This seminar focuses on public organization theory. Subjects include organizational theory, design, and change.

**SPEA-N 521 The Nonprofit and Voluntary Sector (3 cr.)** Same as PHST-P 521. The theory, size, scope, and functions of the nonprofit and voluntary sector are covered from multiple disciplinary perspectives including historical, political, economic, and social.

**SPEA-N 522 Human Resource Management in Nonprofit Organizations (3 cr.)** This course provides an overview of the human resource management areas necessary for the productive functioning of nonprofit organizations. Theories of motivation applicable to the management of staff and volunteers, and personnel topics of recruitment, selection, board-staff relations, compensation, training, and development are covered.

**SPEA-N 523 Civil Society and Public Policy (1-3 cr.)** Exploration of interaction of public policy and nonprofit organizations, drawing on history, political theory, and social science. Includes examination of regulations and taxation. Depending on instructor's interests, course covers nonprofit role in selected policy arenas (such as environment and poverty) and industries (such as international development and health care).

**SPEA-N 524 Civil Society in Comparative Perspective (3 cr.)** An exploration of state-society relationship in a variety of regimes and time periods. Focus on ways regimes' policies affect the existence and contribution of those nongovernmental and nonprofit organizations that stand between the individual and the state; how nonprofit organizations shape the policy agenda of a regime.

**SPEA-N 525 Management in the Nonprofit Sector (3 cr.)** P: SPEA-V 521 or PHST-P 521. An examination of nonprofit organizations and their role in society. Management issues and public policy affecting these organizations are discussed. Primary emphasis is upon U.S. organizations, but attention is given to the global nature of the sector.

**SPEA-N 534 NGO Management for International Development (3 cr.)** Coursework prepares students for employment in international development. It covers a range of theoretical material and practical skills, answering questions like: What role do NGOs play in developing countries? How do we define and measure NGO success or failure? How do NGOs fundraise, plan, evaluate and collaborate on programs?

**SPEA-N 544 Marketing for Nonprofit Organizations (3 cr.)** This course examines the concepts of marketing and the extent to which they apply to the nonprofit sector, as well as how marketing can assist organizations both in resource acquisition and program development/implementation. Contexts such as social marketing,

arts marketing, fundraising, education, and healthcare marketing will be considered.

**SPEA-N 557 Proposal Development and Grant Administration (3 cr.)** This course provides the opportunity for each student to develop a complete proposal through participation in the entire grant application process. The integration of case studies, visual media, printed materials, and class discussions provides students with practical knowledge for writing successful proposals.

**SPEA-N 558 Fund Development for Nonprofits (3 cr.)** Important aspects of the fund raising process in nonprofit organizations are covered, including techniques and strategies for assessing potential sources of support; effective use of human resources; process management; theory to underlay practice; analysis of current practice; practice standards; and discussion of ethical problems.

**SPEA-N 720 Research and Theory of Nonprofit Management (3 cr.)** Doctoral Seminar covering nonprofit management research, applying a broad, interdisciplinary lens and addressing the methodological and theoretical state of the field. Required for both SPEA and non-SPEA doctoral students who are minoring in nonprofit management.

**SPEA-P 507 Data Analysis and Modeling for Public Affairs (3 cr.)** P: SPEA-E 538 or V 506. Focus on analytical models and their use in solving problems and making decisions in the public sector. Discussion of standard approaches to modeling and estimation of parameters.

**SPEA-P 539 Management Science for Public Affairs (3 cr.)** P: SPEA-V 506. Focuses on management science methods as applied to public affairs. Includes treatment of decision theory, constrained optimization, and probability simulation.

**SPEA-P 541 Benefit Cost Analysis (3 cr.)** P: SPEA-V 517 or consent of instructor. A course applying benefit-cost analysis to public and environmental policies. The first part of the course develops the foundation of benefit-cost analysis. The second part of the course consists of case studies applying benefit-cost analysis to actual policy decisions.

**SPEA-P 562 Public Program Evaluation (1-3 cr.)** Examination of how the programs of public agencies are proposed, established, operated, and evaluated. Discussion of the role and conduct of research in the program evaluation process. In addition, techniques of effective evaluation and analysis are discussed.

**SPEA-P 664 Seminar in Policy Analysis (3 cr.)** This course focuses on applications of such policy tools as the general linear model (GLM), optimization techniques, probability models, and management science techniques. Students complete a policy analysis project using one of these approaches.

**SPEA-P 673 Public Policy Analysis and Management Science/Operations Research (3 cr.)** P: SPEA-V 539 or consent of instructor. Applications of management science and operations research (MS/OR) techniques such as linear programming, goal programming, data envelopment analysis, stochastic processes, networks,

decision analysis, and nonlinear programming to public policy problems analysis.

**SPEA-P 690 Seminar in the Public Policy Process (3 cr.)** An evaluation of the theoretical and empirical literature on public policy processes. The findings of policy research are evaluated. An integrative paper is required.

**SPEA-P 691 Workshop in Public Policy (0-1 cr.)** This workshop focuses on theory and research about public policy. Students are given opportunities to present and critique public policy research and to lead and participate in discussions of selected books and articles.

**SPEA-P 710 Topics in Public Policy (3 cr.)** Doctoral seminar focusing upon various topics in public policy. Illustrative topics include public management, environmental policy, public finance, and urban affairs.

**SPEA-R 513 Wildlife Law (3 cr.)** Topics include the relationship between real property and wildlife, sovereignty and federalism issues, the Endangered Species Act, and other federal programs. The class also discusses the public policy, ethical, scientific, and economic issues associated with environmental decision-making. Focus is on U.S. law/policy.

**SPEA-R 520 Environmental Policy Analysis (3 cr.)** The interrelationships among social, technical, and natural systems. Theories of growth. Causes and implications of environmental problems. Alternative policies and mechanisms for environmental control and bases for choice.

**SPEA-R 531 Water Law (3 cr.)** P: SPEA-V 540 or SPEA-V 645 Water Law explores how the U.S. addresses water use conflicts. Topics include riparian water rights (eastern U.S. water law), prior appropriation water rights (western U.S. water law), federal water rights, the public trust doctrine, recreational uses, and groundwater use. The class focuses on access and allocation policy, not pollution control.

**SPEA-R 533 Public Natural Resources Law (3 cr.)** This course examines the tension between public control of and private interests in U.S. public lands. Coverage includes: federalism; proprietary management models; role of science; separation of powers; and judicial review in the context of the laws/policies governing mineral, energy, timber, recreation, wildlife, and preservation resources.

**SPEA-R 571 State and Local Environmental Management (3 cr.)** This course examines a mix of management and policy issues. Included are civic environmentalism, alternatives to environmental regulation, unfunded mandates, environmental justice, public relations, outsourcing, ethical challenges, and managing scientific and technical personnel.

**SPEA-R 590 Energy Policy from a Nation-State Perspective (3 cr.)** This course will examine national energy policies through the lens of basic theories of international relations. Case studies will examine specific countries in detail, as well as efforts at regional and international cooperation. Students will work in pairs preparing recommendations for the energy ministries of specific countries.

**SPEA-R 591 Climate Change Impacts on Natural Resources (3 cr.)** P: A graduate class (or waiver) in applied ecology, natural resource management, energy policy, environmental policy, or other relevant supporting course with permission of the instructor. Climate change impacts to species, ecosystems, and natural processes, including impacts that result from human responses to climate change. Includes science and policy aspects. Requires previous coursework in supporting science or policy.

**SPEA-R 625 Environmental Economics and Policy (3 cr.)** P: SPEA-V 517. The course develops the microeconomics-based environmental policy paradigm and uses the paradigm to evaluate the efficiency of current environmental regulations. The course also explores the incentive issues associated with the design of international environmental agreements and develops techniques (contingent valuation, hedonic pricing, travel cost method) for valuing environmental resources.

**SPEA-R 643 Natural Resource Management and Policy (3 cr.)** P: SPEA-V 517 or consent of the instructor. This course evaluates a broad range of contemporary resource policies, cases, and controversies, using bioeconomic resource management models as an intuitive aid, wherever possible. Topics include fishery management, forestry policy, tropical deforestation, water management policy, nature preservation/endangered species, sustainable development, and national income accounting.

**SPEA-R 645 Environmental Law (3 cr.)** An overview of U.S. environmental law. Key environmental statutes are examined, as are court decisions interpreting those statutes. Topics include water and air pollution, hazardous waste, toxins, pesticides, and environmental impact statements.

**SPEA-R 674 Energy Economics and Policy (3 cr.)** This course will introduce students to the fundamentals of energy economics including the concepts and tools related to analysis of international fuel markets, technology choice, exhaustible and renewable energy models, consumption and efficiency choices, and environmental protection options.

**SPEA-S 515 Sustainable Communities (3 cr.)** Course explores proactive strategies for moving communities toward economics, social and environmental sustainability. Through case studies, projects, tours, and visiting professionals the new thinking in community design, from individual green buildings to regional scales of transportation, land use, commerce, natural systems restoration, waste, food, water and energy are developed.

**SPEA-S 596 Sustainable Development (3 cr.)** Focuses on theories and policies of sustainable development. Course employs an interdisciplinary approach by combining approaches and models with neoclassical economics, ecological economics, political science, and ecology to study dynamical interrelationships between the macro-economy at the national and international levels of analyses, markets, political institutions, and the ecosystem.

**SPEA-V 500 Quantitative Tools for Public Affairs (1-3 cr.)** A modular presentation of mathematical and statistical concepts designed to prepare students for V

506 Statistical Analysis for Effective Decision Making. Representative module topics include basic algebraic concepts, probability, computer use, and matrix algebra.

**SPEA-V 502 Public Management (1-3 cr.)** Analysis of concepts, methods, and procedures involved in managing public organizations. Problems of organization, planning, decision making, performance evaluation, and management of human resources are considered. Cases are drawn from a variety of public services found at federal, state, and local levels of government.

**SPEA-V 506 Statistical Analysis for Effective Decision Making (3 cr.)** Noncalculus survey of concepts in probability, estimation, and hypothesis testing. Applications of contingency table analysis and analysis of variance, regression, and other statistical techniques. Computer processing of data emphasized.

**SPEA-V 508 Topics in Quantitative Analysis (1-3 cr.)** P: consent of instructor. Study and application of selected quantitative methods of analysis. Additional topics that are not included in V 506 and V 507 may be presented, or more advanced examination of topics that are introduced in V 506 or V 507 may be presented.

**SPEA-V 512 Public Policy Process (1-3 cr.)** An examination of the role of public affairs professionals in policy processes. Focuses on relationships with political actors in various policy areas.

**SPEA-V 517 Public Management Economics (3 cr.)** This course focuses on applications of the principles and concepts of intermediate microeconomic theory and managerial economics to public-sector management decisions and policy analysis. The course utilizes case studies with the goal of giving students opportunities to recognize the economic dimensions inherent in the public policy problems and to develop an analytical problem-solving orientation.

**SPEA-V 529 Seminar in Career and Professional Development (1 cr.)** Introduction to career development in public and environmental affairs. Orientation to career development approaches and resources. Discussion and practice of professional skills and techniques. Orientation to career development opportunities. Grading is on an S/F basis.

**SPEA-V 530 Communications for Public and Nonprofit Affairs (3 cr.)** Using perspectives from the social sciences and case studies of successful (and unsuccessful) efforts, this course examines what "public opinion" is, how it is formed, and what leaders of government and nonprofit agencies do to communicate with the public, especially in an era of great change in the mass media.

**SPEA-V 540 Law and Public Affairs (3 cr.)** Explanation of law in society and its influence on public-sector operations. Examination of some of the central substantive areas of the study of law, including regulatory processes, administrative adjudication, the Administrative Procedures Act, ombudsmen, and citizen rights, among others.

**SPEA-V 543 Health Services Management (3 cr.)** A course that integrates theory and application with respect to management of health service organizations. Emphasis on the role of managers and management within formal health service organizations. Current management and

organization theories are applied to an understanding of health care delivery settings.

**SPEA-V 545 The U.S. Health Care System (3 cr.)** An analysis of the delivery of health care in the United States from 1900 to the present. Major system components are defined and studied with emphasis on current health care policy. Topics include the organization of health care delivery on federal, state, and local levels, in both public and private sectors.

**SPEA-V 550 Topics in Public Affairs (1-4 cr.)** Selected research and discussion topics organized on a semester-by-semester basis, usually with significant student input in the course design.

**SPEA-V 551 Topics in Comparative Public Policy (3 cr.)** The role of administrative and political systems in an international setting that focuses on industrial policy as developed between collaborative governments and their links to the key countries of Asia, Europe, the Americas, and Africa will be examined in topic settings. Related readings and published research will also be used.

**SPEA-V 554 Human Services Administration (3 cr.)** Focus is on policy, management, and organization relating to a variety of human service systems. Special attention is given to the management of social programs in the environmental system.

**SPEA-V 556 Topics in Human Services Administration (3 cr.)** Readings and research on selected topics in the field of the management of human services. Topics selected for study will vary.

**SPEA-V 559 Principles and Practices of Social Entrepreneurship (3 cr.)** This course will survey issues in social entrepreneurship and engage students in completing class projects applying principles and practices of social entrepreneurship to problems of nonprofit organizations, government agencies, and social-purpose business.

**SPEA-V 565 Environmental Conflict Resolution: Theory and Practice (3 cr.)** Theories of environmental conflict resolution are examined. Students will "practice by doing" through participation in a series of environmental conflict resolution simulations.

**SPEA-V 566 Executive Leadership (3 cr.)** The course offers an in-depth examination of factors that contribute to successful executive leadership practice in a wide variety of organizational settings. Topics include what leadership is, what impact leadership has, and how leaders use various approaches and powers to achieve their goals.

**SPEA-V 572 Urban Topics (3 cr.)** Selected topics in urban policy and administration. The course is sometimes restricted to a special group of students focusing on a particular research interest.

**SPEA-V 574 Environmental Management in the Tropics (3 cr.)** This course provides an interface between ecology, economics, and policy in the context of non-Western cultures and environments. Students will explore resource use in unfamiliar physical and cultural settings. This examination will highlight common processes that in turn will help the student to understand better the cultural/social underpinnings necessary for analysis.

**SPEA-V 579 Master's International (0-6 cr.)** Master's International (MI), V579, represents the field experience component for MI candidates. This course will consist of a field, research or self-reflection project approved and directed by a faculty advisor or relevant staffer. Registration is by permission only. The final registration for V579 will be upon the return semester to SPEA.

**SPEA-V 580 Readings in Public Affairs (1-6 cr.)**

P: written consent of instructor. Readings on selected topics in public affairs.

**SPEA-V 581 Public Safety Law (1-3 cr.)** Survey of historical development of Anglo-American law of public safety, including criminal law, civil remedies, administrative regulation of risk, and recent developments in employee and consumer safety. Emphasis on understanding legal theory and practice as basis for management decisions. Comparison of jurisprudential viewpoints and other disciplinary approaches to causation, prevention, and correction of public safety problems.

**SPEA-V 582 Overseas Topics in Public Affairs**

**(0-15 cr.)** SPEA Abroad Graduate Program: study of selected topics in public affairs. Topics vary from semester to semester. May be repeated for credit.

**SPEA-V 585 Practicum in Public Affairs (0-6 cr.)**

Students hold work assignments with public agencies. Grading is on an S/F basis.

**SPEA-V 589 Democratization and Transition in Eastern Europe and the Newly Independent States (3 cr.)**

This seminar focuses on how the governments of Eastern Europe and the Newly Independent States have responded to changes in their political, economic and social environments. Discussion of constitutional development, legislative-executive relations, the development of intergovernmental relations, bureaucratic development, economic reform, budgetary systems, legislatures, and executive branches is included.

**SPEA-V 590 Research in Public Affairs (1-6 cr.)**

P: written consent of instructor. Research on selected topics in public affairs.

**SPEA-V 593 Analytical Methods in Planning and Policy Analysis (3 cr.)**

P: SPEA-V 507. C: SPEA-V 507. Topics relate to goal setting and forecasting. Analytical methods include time series analysis, demographic projections, economic development and employment forecasting, and land use and transportation planning analysis. Optimization methods are applied to transportation and project management.

**SPEA-V 594 Principles of Urban and Regional Science (3 cr.)**

Discussion of the basic processes of change and development in regional systems, with emphasis on metropolitan regions. Includes economic, demographic, and environmental aspects of their interactions.

**SPEA-V 595 Managerial Decision Making (1-3 cr.)**

P: SPEA-V 504 and V 539. Applications of decision-making tools to substantive public management problems. A variety of managerial cases and issues are selected for intensive discussion and analysis.

**SPEA-V 600 Capstone in Public and Environmental Affairs (3 cr.)** Interdisciplinary course designed to give students exposure to the realities of the policy process

through detailed analyses of case studies and projects. Course integrates science, technology, policy, and management.

**SPEA-V 601 Workshop in Public Affairs (1-6 cr.)**

Projects in public affairs. The students work on a research and resource team to complete a project for a public-sector client. Faculty act as project managers and resource personnel.

**SPEA-V 606 Statistics for Research in Public Affairs I (3 cr.)**

P: Graduate-level introductory statistics. Focus is on estimation of model parameters using least square methods. Topics include properties of estimators, ordinary least square, instrumental variables, two- and three-stage least squares, assumptions, consequences when assumptions are false, and alternate methods when assumptions are false. Emphasis on matrix representations and simulation methods.

**SPEA-V 607 Statistics for Research in Public Affairs II (3 cr.)**

P: SPEA-V 606. The second part of a sequence introducing statistical techniques used in modern public policy research. It extends the single and multiple equation least squares models to include non-linear moments, bayesian, maximum likelihood, and simulation-based techniques. Applications to a number of situations that cannot be estimated using standard regression methods.

**SPEA-V 620 Seminar in Professional Ethics (3 cr.)**

This seminar explores issues of personal and official ethics in public affairs. Various frameworks for professional ethics will be covered.

**SPEA-V 630 Advanced Management Topics (3 cr.)**

P: SPEA-V 502 or permission of instructor. Selected readings, research, and problems covering advanced public management applications and practices. Topics will vary. Course will not cover topics available in other courses. Course may be repeated. Course may be repeated.

**SPEA-V 640 Law, Public Management, and Public Policy (3 cr.)**

A seminar that examines how courts and public actors interact to produce public policy. The nature of public policy and the capacity of judicial decisions to effect public policy will be examined and analyzed.

**SPEA-V 650 Topics in Public Personnel Management**

**(1-3 cr.)** P: SPEA-V 561. Readings and research on selected topics in the public personnel field. Topics may include such subjects as affirmative action, occupational health and safety, workforce forecasting and planning, and personnel approaches to position classification.

**SPEA-V 651 Introduction to Public Affairs (3 cr.)**

Covers the central organizing concepts in public affairs study, specialized areas of research in the field, and problems of knowledge and method in public affairs.

**SPEA-V 660 Cases and Problems in Fiscal Administration (3 cr.)**

P: SPEA-V 560 or consent of instructor. C: SPEA-V 560 or consent of instructor. An advanced seminar in the management aspects of public finance. Focuses on the budgetary process. Special cases are analyzed and budget problem-solving exercises are utilized.

**SPEA-V 663 Policy Analysis (3 cr.)** An introduction to the field of policy analysis. Includes discussion of different

models, approaches, conceptual foundations of the field, and the basic issues surrounding application. Students without appropriate previous course work are expected to do extra reading under the guidance of their instructor or to audit existing master courses.

**SPEA-V 665 Seminar in Policy and Administration (3 cr.)** Politics of program development and management. Translation of plans into viable, administrable programs. Marshaling support, political processes, strategies, constraints, tradeoffs, etc.

**SPEA-V 670 Topics in Public-Sector Labor Relations (1-3 cr.)** P: SPEA-V 570 or consent of instructor. Selected research and discussion topics in the field of public-sector labor relations arranged on a semester-by-semester basis. Possible topics are collective bargaining in the public sector and dispute settlement in public-sector labor relations.

**SPEA-V 675 Issues and Problems in Public-Sector Personnel and Labor Relations (3 cr.)** P: SPEA-V 561 and V 570. A capstone seminar providing a practical and integrated examination of significant current cases and problems confronting public-sector employees and employers.

**SPEA-V 680 Research Design and Methods in Public Affairs (3 cr.)** Three major areas will be covered: philosophy of science, theory and design of research, and applied research methodologies. Topics play a major role in providing insights into how usable knowledge is created, defended, and replaced.

**SPEA-V 685 Research Seminar in Public Affairs (3 cr.)** P: SPEA-V 680. Course will focus upon completion, revision, and presentation of completed original research. Class meetings will focus on progress reports by each participant and the critique and revision of draft papers. Students will present revised research papers to the faculty and students of the school in a series of research colloquia.

**SPEA-V 782 Overseas (Ph.D.) Topics in Public Affairs (0-15 cr.)** Doctoral Abroad Program: study of selected topics in public affairs. Topics vary from semester to semester.

**SPEA-V 800 Public Affairs Tutorial (3 cr.)** Readings in a substantive area of public affairs (e.g., health, criminal justice, human services, transportation) in preparation for development of a dissertation proposal.

**SPEA-V 890 Thesis (Ph.D.) (1-12 cr.)** (S/F only)

**SPEA-X 511 Human Behavior and Energy Consumption (3 cr.)** We face many barriers that prevent us from conserving energy and other natural resources. This course is aimed at decreasing energy use independent of top down regulations. Students will understand the nature of energy, the importance of human behavior, and how to create, and evaluate behavioral change.

## Graduate Courses

- Arts Administration
- Criminal Justice - For a complete list of courses please refer to the Indianapolis SPEA bulletin at

<http://bulletins.iu.edu/iupui/2016-2017/schools/spea/courses/graduate.shtml>.

- Environmental Science
- Public Affairs

## Faculty

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