ENVIRONMENTAL SCIENCES, POLICY AND MANAGEMENT B.S.
Policy, Planning, Law, and Society Track
Fall 2015 curriculum
Use your APAS report to find your exact requirements

The PPLS track focuses on developing understanding and problem-solving skills germane to the interaction between human and natural systems. Students study concepts, issues, and problem solving approaches that address the policy, legal, economic, political, planning and sociological aspects of environment and natural resource management. This study includes ethics and conflict management. The track further emphasizes an interdisciplinary approach for examining problems and developing effective and innovative solutions. Problems considered include sustainable land use planning, resource conservation and management, law, and environmental protection at a range of political levels and spatial scales. Students develop skill in integrating knowledge from the physical, biological, and social sciences to develop policy and planning alternatives and appropriate strategies to provide real solutions to complex problems. Students may also develop specialized background in environmental law, policy analysis, planning, and conflict management. With this track students will be well prepared for policy development and analysis, strategy development, and decision-making in a range of positions and institutional settings. Example positions include those as a policy analyst, community planner, social researcher, or lawyer in public agencies, with legislative bodies, consulting firms, and conservation organizations. This track will also prepare students for graduate study in policy, planning, and law programs.

Note: One course cannot satisfy multiple requirements in the major; however a course can satisfy a major requirement and a liberal education and/or CFANS minor requirement.

A. Integrated ESPM Core (12 credits)
___ ESPM 1001 Orientation to ESPM: Freshmen Students (1 cr, F)
___ ESPM 1002 Orientation to ESPM: Transfer Students (1 cr, F)
___ ESPM 1011 Issues in the Environment (3 cr, F/S)
___ ESPM 2021 Environmental Sciences – Integrated Problem Solving (3 cr, S)
___ ESPM 3000 Seminar on Current Issues in ESPM (1 cr, F/S)
___ ESPM 4041W Problem Solving for Environmental Change (4 cr, F)
___ ESPM 4021W Problem Solving: Env Review (4 cr, S)

B. Communications (7 credits)
___ Writ 1301 University Writing (4 cr, F/S)
___ Comm 1101 Introduction to Public Speaking (3 cr, F/S)
___ AFEE 2421 Communication for Ag, Food & Env. (3 cr, F/S)

C. Mathematical Thinking (4 credits)
___ ESPM 3012 Statistical Methods for Env. Scientists & Mgrs. (4 cr, S)
___ Stat 3011 Introduction to Statistical Analysis (4 cr, F/S)
___ Soci 3811 Basic Social Statistics (4 cr, F/S)

D. Physical and Basic Biological Sciences (8 credits)
___ Biol 1001 Introduction to Biology (4 cr, F/S)
___ Biol 1009 General Biology (4 cr, F/S)
___ Chem 1015 Introductory Chemistry: Lecture (3 cr, F/S)
___ Chem 1017 Introductory Chemistry: Laboratory (1 cr, F/S)
___ Chem 1061 Chemical Principles I Lecture(3 cr, F/S)
___ Chem 1065 Chemistry Principles I Laboratory (1 cr, F/S)

E. Social Sciences (10 credits)
___ ESPM 3261 Economics and Natural Resources Management (4 cr, S)
___ ESPM 3241W Natural Resource and Environmental Policy (3 cr, S)
___ ESPM 3271 Env. Policy, Law & Human Behavior (3 cr, F)

F. Internship and Field Experience (1 - 4 credits)
___ ESPM 4096 Professional Experience Internship (1 cr, F/S)
* Requires approval and supervision of faculty advisor in the track
___ ESPM 4097 Professional Experience Internship (1 cr, F/S)
___ ESPM 4098 Professional Experience Internship (1 cr, F/S)
___ ESPM 4099 Professional Experience Internship (1 cr, F/S)

G. PPLS Track: Core and Contract Courses (44 credits)

CORE CLASSES:
POLICY AND PLANNING REQUIRED COURSES (15 CREDITS)
___ ESPM 3202W Environmental Conflict Management, Leadership, and Planning (3 cr, S)
___ ESPM 3245 Sustainable Land Use Policy and Planning (3 cr, F)
___ ESPM 3251 Natural Resources in Sustainable International Development (3 cr, F)
___ ESPM 4256 Natural Resource Law and the Management of Public Lands and Waters (3 cr, S)
___ ESPM 4242 Natural Resource and Environmental Policy Analysis (3 cr, even Falls)
___ ESPM 4256 Natural Resource Law and the Management of Public Lands and Waters (3 cr, S)

METHODS (7 - 8 CREDITS)
___ FNRM 3131 Geographical Information Systems for Natural Resources (4 cr, F/S)
___ FNRM 5259 Visitor Behavior Analysis online (3 cr, even Falls)
___ Pol 3085 Quant. Analysis in Political Science (4 cr, F/S)
___ Pay 3001W Intro to Research Methods (4 cr, F,S,Su)

ECOLOGY AND MANAGEMENT
Take one of the following (3 credits):
___ ESPM 3018 Ecology of Managed Systems (3 cr, F)
___ ESPM 3575 Wetlands (3 cr, S)
___ ESPM 3018 Ecology of Managed Systems (3 cr, F)
___ FNRM 3411 Managing Forest Ecosystems: Silviculture (3 cr, F)

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ENVIRONMENTAL AND SYSTEMS MANAGEMENT

Take TWO of the following (6-8 Credits)

ESPM 3603 Environmental Life Cycle Analysis (3 cr, F)
ESPM 3604 Environmental Mgmt Systems and Strategy (3 cr, F)
ESPM 4021W Environmental Impact Statements (4 cr, S)
ESPM 4061W Water Quality and Natural Resources (3 cr, F)
BBE 2201 Renewable Energy & the Environment (3 cr, F)
FNRM 3114 Forest Hydrology and Watershed Mgmt (3 cr, F)
FNRM 5146 Science & Policy of Global Env. Change (3 cr, S)
FNRM 4232W Managing Recreation Lands (4 cr, S)
FNRM 3101 Park and Protected Area Tourism (3 cr, odd Falls)
Soil 2125 Basic Soil Science (4 cr, S)

Contract Courses (minimum of 12 credits)

Students must specialize in a contract area through a University minor, study abroad experience in PPLS topics, or student designed content area. Students are encouraged to make choices that strengthen their expertise in a PPLS area and/or provide comparative understanding from a related discipline.

You must submit a contract for 12 credits, completed through prior consultation and approval from your faculty advisor – CONTRACT REQUIRED. Courses taken from the above categories cannot be double counted here, nor can courses count for multiple groups. All contract courses must be upper division (3xxx, 4xxx, or 5xxx).

Content Areas represent broad areas of study that may cut across disciplines or focus on a specific area of interest as negotiated between the student and their faculty advisor. An example is Policy and Law. Courses listed in Section G but not taken are good possibilities for use in the content area.

Minors represent areas of study recognized by the University that generally require 9-19 credits of additional coursework. Below is a list of example minors of interest to ESPM students. See the University Program Catalog (http://www.catalogs.umn.edu/programs.html) for a full list of minors.

- Applied Economics
- Bio-based Products Engineering
- Communication Studies
- Corporate Environmental Management
- Economics
- Entomology
- Fisheries and Wildlife
- Forest Ecosystem Management and Conservation
- Global Studies
- Geographic Information Science
- Geography
- Land, Nature and Environmental Values
- Management
- Political Sciences
- Recreation and Resource Management
- Sustainability Studies
- Sustainable Agriculture
- Urban and Community Forestry
- Water Science

H. Liberal Ed, Themes and WI Requirements (9 credits)

Liberal Education, Diversified Core and Designated Theme requirements. Students must take a course in four of the five Designated Themes.

Completed through required coursework:

- F = Freshman Composition Requirement
- M = Mathematical Thinking
- B = Biological Science
- P = Physical Science
- SS = Social Science
- E = Environment
- CIV = Civic Life and Ethics Theme
- GP = Global Perspectives Theme

Can be completed through required course work

- TS = Technology & Society Theme (FNRM 3131)

Must be completed with other courses (suggestions)

- L = Literature (ENGL 3501)
- AH = Arts/Humanities (WRIT 3315)
- HP = Historical Perspective (HSCI 3244)
- DSJ = Diversity and Social Justice in United States Theme (3 cr)

Writing Intensive Courses (WI)

(Required: 4 WI courses, 2 of them 3xxx or 4xxx, one in your major)

The WI requirement is satisfied with courses required for the major and PPLS Track

I. Free Electives (21)

Students are encouraged to make choices that strengthen their expertise in an area and/or provide comparative understanding from another culture or discipline. To this end, students should strongly consider using free electives to complete a University minor, study abroad experience, or a student designed content area. Students construct these expertise areas with the help of their advisors, and such areas can be integrated as contract courses.

Please note:

Students are strongly encouraged to have an international experience before graduation. Courses completed during an international experience (study, work, volunteer, research) can meet program requirements, liberal education requirements, and/or electives. Discussion with an advisor prior to commencing an international experience is required to plan how courses tie into the ESPM program and the Policy, Planning, Law, and Society Track.

Experiential Learning and Interdisciplinary Requirements

Beginning Fall 2013, all students entering CFANS are required to complete at least one course approved for the Experiential Learning designation (EL) and one course approved for the Interdisciplinary designation (ID). Several of the ESPM Integrated Core courses (ESPM 4021W & 4041W) are approved for these designations, so these requirements do not require completing additional courses.