Executive Committee: Rachel DeMotts, Environmental Policy and Decision Making; Lea Fortmann, Economics; Kena Fox-Dobbs; Environmental Policy and Decision Making/Geology; Peter Hodum, Environmental Policy and Decision Making/Biology; Daniel Sherman, Environmental Policy and Decision Making; Peter Wimberger, Biology

Professor: Rachel DeMotts, Environmental Policy and Decision Making; Daniel Sherman, Environmental Policy and Decision Making

Associate Professor: Kena Fox-Dobbs, Environmental Policy and Decision Making/Geology; Peter Hodum, Environmental Policy and Decision Making/Biology (on leave 2018-2019)

Affiliated Faculty: Dan Burgard, Chemistry; Monica DeHart, Sociology and Anthropology; Joel Elliott, Biology; Lea Fortmann, Economics; Andrew Gardner, Sociology and Anthropology; Barry Goldstein, Geology; Kristin Johnson, Science, Technology & Society; Lisa Johnson, Business and Leadership; Nick Kontogeorgopoulos, International Political Economy; William Kupinse, English; Steven Neshyba, Chemistry; Emelie Peine, International Political Economy; Doug Sackman, History; David Sousa, Politics and Government; Stacey Weiss, Biology

About the Program
This is an interdisciplinary program designed to help students integrate their primary major area of study with a secondary major or a minor in environmental policy and decision making, a field of study that focuses on how individual and collective decisions interact with the environment. The term “environment” is considered critically with recognition of the often blurry and even indistinguishable boundary between natural and human-built or managed environments. Environmental issues for study thus range from those related to non-human species and habitats to those concerning social and human health problems associated with population density and industrialization. While environmental issues reflect certain empirical realities about the physical world and its limits, they also engage contests among competing human values and visions for the future. Environmental issues are strategically defined, managed, promoted and challenged by a complex and often conflicting array of social actors. In a word, environmental problems are political.

Students who major or minor in Environmental Policy and Decision Making 1) develop an understanding of the multiplicity of values, norms, interests, incentives, and scientific information that influence decisions on environmental issues, 2) learn to critically examine the social, political, and economic contexts for decisions on environmental issues, and 3) engage in interdisciplinary dialogue and apply systems thinking to address current and projected environmental problems.

The program faculty believes that the study of environmental policy and decision making is best accomplished when carried on in conjunction with work in another major area of study. Students should consult with a second advisor familiar with the program. Advisors will help students to design a major or minor program that will complement their majors and help them to focus their studies in areas of interest to them.

General Requirements for the Major or Minor
General university degree requirements stipulate that 1) at least four units of the major or three units of the minor be taken in residence at Puget Sound; 2) students earn a GPA of 2.0 in courses taken for the major or the minor; and 3) all courses taken for a major or minor must be taken for graded credit. Any exceptions to these stipulations are indicated in the major and minor degree requirements listed below.

Requirements for the Major
1. The Environmental Policy and Decision Making major is a secondary major that can be chosen only after a primary major in another field is chosen. A major in Environmental Policy and Decision Making cannot be completed unless a primary major in another department or program is also completed.
2. Completion of the following eight units:
   a. ENVR 200*
   b. ENVR 201
   c. ENVR 202 (0.5 units) or any three courses in the natural sciences (BIO, CHEM, GEO, PHYS)
   d. ENVR 203 (0.5 units)
   e. ENVR 400
   f. A minimum of one policy elective unit (see list below)
   g. Three additional elective units from the lists of policy or general electives (see list below)
3. At least two of the courses used to fulfill the electives for the Environmental Policy and Decision Making major must be outside of the student’s primary major department or program.
4. A maximum of two courses used to meet the requirements of the Environmental Policy and Decision Making major may also be used to satisfy the core curriculum, the requirements of another major, or the requirements of a minor.
5. Seven requirements for the Environmental Policy and Decision Making major must be completed on campus at Puget Sound, including ENVR 200, ENVR 201, ENVR 202 unless 202 is replaced by three courses in the sciences), ENVR 203, the policy elective, and ENVR 400.
6. Completion of an experiential education requirement, to be approved by the program. Examples of experiential education include, but are not limited to, the following: a study-abroad experience, the field school in conservation development (e.g., ENVR 342A), a summer research experience, an environmentally related internship, an ENVR block semester program, and the Food Systems Northwest summer course (ENVR 360).

* ENVR 200 (Note: Prior to 2018-19, this course was numbered ENVR 101.)

Requirements for the Minor
1. Completion of the following five units:
   a. ENVR 200*
   b. A minimum of one policy elective unit (see list below) or ENVR 201
   c. Two additional elective units from the lists of policy or general electives (see list below). ENVR 202 and/or ENVR 203 can count towards this requirement.
   d. ENVR 400
2. A maximum of one course used to meet the requirements of the Environmental Policy and Decision Making major/minor may also be used to satisfy the core curriculum, the requirements of another major, or the requirements of another minor.
3. Four requirements for the Environmental Policy and Decision Making minor must be completed on campus at Puget Sound, including ENVR 200, the policy elective, and ENVR 400.

* ENVR 200 (Note: Prior to 2018-19, this course was numbered ENVR 101.)
Note: It is strongly recommended that at least two of the courses used to fulfill the electives for the Environmental Policy and Decision Making minor be outside of the student’s major department or program.

Policy Electives
One unit selected from the following policy courses.
CON 410 Science and Economics of Climate Change
ECON 225 Environmental and Natural Resource Economics and Policy
ENVR 201 Environmental Policy Tools and Topics (required, not an elective for major; can count as elective in the minor only)
ENVR 210 Fundamentals of U.S. Environmental Law and Policy
ECON/ENVR 327 Climate Change: Economics, Policy, and Politics
ENVR 310 Environmental Decision Making
ENVR 322 Water Policy
ENVR/PG 326 People, Politics, and Parks
ENVR 328 Nuclear Narratives of the American West
ENVR/PG 382 Global Environmental Politics
IPE 331 International Political Economy of Food and Hunger
PG 305 U.S. Environmental Policy
PG 309 Applied Environmental Politics and Agenda Setting

General Electives
BIOL 211 General Ecology
BIOL 370 Conservation Biology
ENGL 374 Literature and the Environment
ENVR 202/203 Tools and Topics in Environmental Science (required, not an elective for major; can count as elective in the minor only)
ENVR 204 Learning in Nearby Nature (0.25 units)
ENVR 315 Energy Resources
ENVR/GEOL 324 Biogeochemical Approaches to Environmental Science
ENVR 325 Geological and Environmental Catastrophes
ENVR 335 Thinking about Biodiversity
ENVR 343 Buddhist Environmentalisms
ENVR 350 Puget Sound Environmental Issues I: Politics and Public Participation (0.25 units)
ENVR 351 Puget Sound Environmental Issues II: Laws and Land Use Designations (0.25 units)
ENVR 352 Sustainability in Everyday Life (0.25 units)
ENVR 353 Environmental Careers and Callings (0.25 units)
ENVR 354 Contemplative Environments (0.25 units)
ENVR 355 Sacred Ecology (0.25 units)
ENVR 495/496 Independent Study
ENVR 498 Internship Tutorial
GEOL 310 Water Resources
GEOL 330 Regional Field Geology
HIST 364 American Environmental History
HIST 369 History of the West and the Pacific Northwest
INTN 497 Internship Seminar
PHIL 285 Environmental Ethics
SOAN 230 Indigenous Peoples: Alternative Political Economies
SOAN 316 Social and Cultural Change
SOAN 407/IPE 407 Political Ecology
SOAN 481, Special Topics: Environmental Anthropology
STS 344 History of Ecology

Course Offerings
Unless otherwise specified, each course carries 1 unit of credit and is offered at least once each academic year. Please see “Frequency of Course Offerings” on page 10.

Connections courses. See Connections in the Core Curriculum section of this Bulletin for course descriptions (page 24).

ENVR 325 Geological and Environmental Catastrophes
ENVR 335 Thinking about Biodiversity

105 Environmental Science  In this course, students examine the Earth as a system of integrated biogeochemical cycles (such as water, carbon, nitrogen, and sulfur). Students come to understand these cycles by integrating relevant aspects of biology, geology, chemistry, and physics. Students learn how human activities can affect these natural biogeochemical cycles and inquire into potential system reaction to such impacts. This course also introduces students to the ways in which science is integrated into the interdisciplinary process of environmental studies. Satisfies the Natural Scientific Approaches core requirement. Offered occasionally.

200 Introduction to the Environment  This is the required introductory course for the Environmental Policy and Decision Making Minor, an interdisciplinary program designed to help students integrate their major area of study with an understanding of how individual and collective decisions interact with the environment. The course uses approaches from the natural sciences, social sciences, and humanities to introduce the ways in which human social, political, economic, and cultural systems interact with systems in the non-human environment. The concept of “sustainability” is explored by considering the tension between the limiting principles in our world and competing human values over the question of what should be sustained for the future. This course includes a required overnight weekend trip early in the term. Offered Fall term only.

201 Environmental Policy Tools and Topics  This course provides a foundation for upper-level policy electives in the Environmental Policy and Decision-Making Program by focusing on institutions and participation in environmental policy. Students examine both domestic and international arenas, with particular attention to the ways in which citizens engage with environmental issues in both familiar and unfamiliar places. Students in the course also learn tools and strategies for understanding environmental issues in diverse contexts, including discussion of different values and perspectives as well as changes in policies over time. Offered spring term only.

202 Tools in Environmental Science  0.50 academic unit. This course, using a tools-focused approach, provides a foundation in basic environmental sciences. The course emphasizes the following concepts: field skills, environmental sampling, data collection, data analysis, and development of scientific questions. Students gain experience applying these concepts in lab and field-based settings. For example, experiential opportunities may include air quality monitoring, water sampling, ecosystem characterization, biodiversity assessment, and spatial analysis. This course is intended for students not majoring in mathematics or the natural sciences. Offered spring term only.

203 Topics in Environmental Science  0.50 academic unit. Writing and presenting science clearly means thinking clearly about science. This course addresses the two main challenges of science literacy: (1) the struggle to understand, and (2) the struggle to communicate that understanding. This course provides students the opportunity to engage with the primary, scientific literature on a range of current interdisciplinary topics relevant to environmental science. Each topic is explored via case studies and review articles. In order to understand and discuss topics and readings, students apply environmental science methods and tools.

210 Fundamentals of U.S. Environmental Law and Policy  This course provides a basic introduction to environmental policymaking in the U.S.
system of government, which includes the processes by which laws, rules and regulations, agency guidelines, court decisions, and international agreements are established. The course explores several major areas of environmental concern. For each area, the class considers the human environmental impacts of concern, the political and policy history causing and addressing the concern, the way in which the current policies in this area work at various levels of government, and the way in which new legal interpretations and other forms of policy change might develop. Special attention is given to the way in which policy affects local and regional environmental issues here in the Pacific Northwest. Field trips and guest speakers are often incorporated into this class. Prerequisite: ENVR 101/200.

250 Introduction to GIS (Geographic Information Systems) Geographic Information Systems (GIS) comprises a complex system of tools that facilitate the collection, display and analysis of geospatial (location-based) data. A GIS is effective in supporting work across the natural sciences, social sciences and humanities. Specific applications include environmental sciences, public health, urban planning, conservation biology, geology, digital humanities, military and education, and continues to increase as technology advances. This course is designed for students who have little or no experience with GIS and want to gain an understanding of the technology. In this course, students gain a deeper understanding of the core concepts of the field and learn how to apply them in specialized areas of study. This course will use ArcGIS for Desktop software and include an introduction to ArcGIS Online tools to support project-based exercises in a hands-on lab environment. No previous experience with GIS is required.

310 Environmental Decision Making This course focuses on the decision making processes that shape the implementation of environmental policy in the United States. Environmental decisions are no longer the exclusive province of technical experts employed by government bureaucracies. Pioneering efforts to involve groups of environmental stakeholders (such as environmental groups, property owners, business interests, tribes, and officials at all levels of government) in environmental decision making began 30 years ago. Now environmental decisions are often held to a legal and public expectation that deliberations will be public and participatory. Students in this course will develop an understanding of the institutions shaping these decisions, the theory behind various decision making approaches, the relative effectiveness of different approaches, and the skills needed to make decisions in these complex policy contexts. This class includes group work on case-based projects and policy simulations. Offered occasionally.

315 Energy Resources This course surveys the wide range of modern energy sources, and considers the prospects for their future supply and availability. Each energy source is explored from a wide range of perspectives, including: its origin, geographic distribution, energy density, energy "type" (gravity, chemical, radioactive, solar), processing, refining, or transformation from one form of mass or energy to another, transport (both pre- and post- processing/transformation), environmental costs (upstream and downstream-lifecycle considerations), and economic costs (cost/unit of energy produced). As ongoing events dictate, energy topics in the news are also considered, including economic, political, and environmental issues of the day. Prerequisites: one course in the Natural Scientific Approaches core, one course in the Mathematical Approaches core, and ENVR 101/200 or permission of instructor. Offered occasionally.

322 Water Policy This course focuses on the management of water resources. More specifically, it addresses the tensions and interactions between hydrological principles, economics, and politics during water management decision making processes. This course challenges students to develop an understanding of the interrelationship between different disciplinary fields of knowledge, including those in the physical and social sciences. Students learn about a wide variety of natural processes that determine the distribution and quality of the world’s freshwater resources. Students also learn about the many ways that freshwater resources are affected by human activities at a global, national and local scale. Prerequisite: ENVR 101/200 or permission of instructor. Offered occasionally.
343 Buddhist Environmentalisms This course examines the intersections of a Buddhist worldview with environmentalism, broadly understood. It asks what affinities exist between the two, and what the implications of such affinities might be for engendering a sense of both place and engagement in environmental context. The course explores these inter-sections both philosophically and experientially, engaging with local nature and Buddhist practice, to deepen the possibilities of understanding shared ground between the two. Prerequisite: ENVR 101. Satisfies the Knowledge, Identity, and Power graduation requirement.

345 Community-Based Methods for Environmental Research Investigating issues related to environmental policy and decision-making requires a varied toolkit of interdisciplinary research and analysis methodologies that can be applied at the community level. This course introduces students to major social science methodologies and explores their applicability for EPDM research, including: historical and archival research, folkloric and narrative analysis, community based participatory research, and cultural geography. Each student designs and implements their own community-based field research project, making use of at least two of the methods introduced in the course. Prerequisite: EPDM 101/200 or permission of instructor. Offered Occasionally.

350 Puget Sound Environmental Issues Part I: Politics and Public Participation 0.25 unit This course familiarizes students with the variety of ways citizens engage in public decision making on environmental issues central to the health of Puget Sound. The course combines nearly 24 hours of class and field experience over the course of a single weekend (Friday evening to Sunday evening) with additional meeting hours during three weeknight meetings. Students study a single regional watershed from source to mouth, gaining an understanding of the role citizens play in shaping the environmental policy of a particular place. The class employs written case materials developed to highlight particularly successful examples of citizen engagement in environmental policy in the watershed, mini-lectures by academic experts on the relevant political and environmental contexts of the cases, discussion panels with key stakeholders and decision makers on these issues, and field experiences designed to reveal the applied context of the issues under consideration. A select number of local community members may participate in the class on a non-credit basis.

351 Puget Sound Environmental Issues Part II: Laws and Land Use Designations 0.25 unit This course is designed to familiarize students with environmental laws and land use designations governing selected environmental issues central to the health of Puget Sound. The course combines nearly 24 hours of class and field experience over the course of a single weekend with additional meeting hours during three weeknight meetings. Students study a single regional watershed from source to mouth to gain a place-based appreciation for the effects of laws and land use designations on the environment. The class employs written case materials developed to highlight particular environmental issues in the watershed, mini-lectures by academic experts on the relevant legal and environmental contexts, discussion panels with key stakeholders and decision makers on these issues, and field experiences designed to reveal the applied context of the issues under consideration. A select number of local community members may participate in the class on a non-credit basis.

352 Sustainability in Everyday Life 0.25 unit This course is designed to familiarize students with the variety of ways individuals and communities can make choices and take actions that lead to environmental and social improvements in our surroundings. The course includes five 2-hour discussion sessions on sustainability topics, one weekend field trip and one major written project. These sessions include shared readings, facilitated discussion, mini-lectures by guest speakers, and even hands-on applications. Puget Sound students in this class will be joined by a select number of local community members who will participate in the class on a non-credit basis.

353 Environmental Careers and Callings 0.25 unit This course provides students with opportunities to interact with environmental professionals during on-campus panels and job site visits. The course also provides context for reflection on these experiences in ways that link professional development to academic study in environmentally related fields. Class readings and discussion examine the many forces shaping not only opportunities for “green jobs,” but also our views on work and its meaning. Workshops for this course help students develop professional networks as well as job seeking skills and materials.

354 Contemplative Environments 0.25 unit. This course explores the ways in which different spiritual traditions (both secular and religious) consider and practice with the human relationship to the natural environment. In this light, nature is a space worth exploring in both intellectual and experiential ways, and offers the opportunity to consider how connections and relationships are formed between people and the places in which they live.

355 Sacred Ecology 0.25 unit. This course examines examples of ways in which different religions and spiritual systems think about nature as a resource, place, and context for beliefs and practices. How do organized belief systems relate to natural environments, and what does this mean for the place of humans within it?

356 Garden Practices 0.25 activity unit. This quarter unit activity course is designed to give students the opportunity to gain knowledge in a variety of topics related to gardening and food production. It meets for 2 hours each week beginning three weeks into the semester, 24 contact hours over the entire course. Students also spend an hour each week independently in the garden, gaining further experience and maintaining the plants for which the course is responsible. Contact hours are divided between knowledge sharing, hands-on experience, and field trips to gardens in Tacoma. The course is student led, allowing for a peer-to-peer spread of knowledge, and gives students the opportunity to foster a sense of independence and accountability. Students who participate in the course one year have the opportunity to lead it in future years under the supervision of a knowledgeable faculty member. A select number of local community members may participate in the class on a non-credit basis.

357 Environmental Challenge 0.25 activity unit This course facilitates student teams competing in the Environmental Challenge (EC) program, a student competition to prepare and present an optimal solution to a complex “true to life” environmental problem. The EC is part of the conference hosted by the Pacific Northwest International Section (PNWIS) of the Air and Waste Management Association (AWMA), a professional organization of environmental professionals. The course requires teams of 3-5 students to submit a written proposal addressing the EC question, participation in the PNWIS three-day conference, and oral presentation and defense of the proposal at the conference. The proposals are evaluated by environmental professionals from industrial, regulatory, consulting, and academic fields. The EC problem is of current value, representative of the location of the conference, and requires a multidisciplinary approach for success. To be successful in the EC teams must seek technical and scientific analyses as well as solutions with appropriate regulatory compliance and resolution with political and community stakeholders. To be successful at the competition, student teams must research the problem background, as well as the technical,
social, economic, and political aspects of the situation while staying apprised of ongoing current events related to the problem. A diversity of student backgrounds and majors are encouraged to enroll and often produce the most successful teams. May be repeated once for credit.

358 Practice of Meditation 0.25 activity credit. Meditation in many forms is practiced in many religious and secular traditions around the world. In this course, students explore the intersections of mindfulness and awareness, contemplation, and meditative walking and observation as a way to become more aware of their own internal thought processes. Meditation can also help students to be more focused, less stressed, and more aware of others and the place in which they reside.

360 Food Systems Northwest: Circuits of Soil, Labor, and Money Eating food is critical to everyday life, and yet many have the luxury to treat daily sustenance as an afterthought. For some, the connections between food and the larger environmental and social systems that sustain human life are largely invisible. This experiential course explores these interactions through an extensive and intensive investigation of the Northwest food system from farm to fork. For three weeks, the course travels among the campuses of Whitman College, the University of Puget Sound, and Willamette University, tracing the themes of soil, labor, and money across the Northwest foodscape. Beginning at Whitman, students focus on the political economy of the food system, training a global lens on the industrial wheat farms, chicken processing plants, and large-scale dairy operations of the Walla Walla Valley. At the University of Puget Sound, the focus shifts to urban agriculture and food justice, tracing the three themes through questions of poverty and access to food, urban planning, and the challenges of growing food in the city of Tacoma. Finally, the course concludes at Willamette where students will live and work at Zena Forest and Farm, putting the methods of sustainable agriculture into practice and exploring the opportunities and obstacles associated with smaller-scale organic agriculture in the Willamette Valley. Offered occasionally.

382 Global Environmental Politics The course examines the intersection of environmental issues with politics and policy-making on a global as well as a local scale. It explores international structures and efforts to deal with environmental problems, a wide range of particular environmental challenges such as climate change and conservation, and the different experiences of individual countries in trying to use and manage their natural resources. Throughout, the relationships between political and natural systems are explored, with a particular focus on the ways in which politics and policy can both produce effective strategies and new difficulties for handling environmental challenges. Cross-listed as PG 382. Prerequisite: ENVR 101/200 or a PG course or instructor permission.

395 The History, Utility, and Practices of Natural History Museums 0.5 unit This course is designed to provide a general overview of natural history museum uses and practices. Natural history museums were the primary locus for biological research in the 18th and 19th centuries. They represent invaluable archives of Earth’s biodiversity; their vast collections of specimens provide a temporal and geographic record of life unmatched by written or illustrated accounts. They document variation—the foundation of evolution—in time and space and allow biologists to make comparisons that are difficult or impossible to observe in the field. Natural museums are an incredible resource for researchers with interests in evolution, ecology, zoology, botany and environmental change. They are phenomenal venues for teaching and engaging students ranging from young children to senior citizens. And they are sources of inspiration for scientists and artists. In this course students learn the history of natural history collections, engage in the practices of natural history museums, learn the myriad ways that natural specimens have been used in research, and do an independent project. Offered occasionally.

400 Senior Seminar in Environmental Studies This course analyzes one current environmental issue from the perspectives of the sciences, the social sciences, and the humanities. Students collectively examine the case from different disciplinary perspectives in an attempt to understand issues in their full complexity. Students conduct an in-depth research project on issues and present their findings in an open forum. Students formulate their own problem-solving approach to environmental problems and recognize how their approach connects to the work of others. Prerequisites: Environmental Policy and Decision Making major or minor; ENVR 101/200; two elective units including one policy elective; and senior standing. Offered fall term only.

495/496 Independent Study

498 Internship Tutorial Internship placement related to environmental policy and decision making, in areas such as urban planning, nature mapping, and stakeholder analysis. Students who enroll in this course work with a faculty member to develop an individualized learning plan that connects the internship experience to the Environmental Policy and Decision Making minor. Prerequisite: approval of tutorial professor and the Internship Coordinator.