

# ENVIRONMENTAL POLICY ANALYSIS & PLANNING, BACHELOR OF SCIENCE

## College of Agricultural & Environmental Sciences

The major in Environmental Policy Analysis & Planning develops skills for designing and assessing sustainable policies for environmental quality and natural resource management.

Any student in good standing is eligible to transfer to the major; to do so, please see the staff advisor, Melissa Whaley, in 2134 Wickson Hall, or the lead faculty advisor, Prof. G. Arnold, in 2144 Wickson Hall.

## The Program

This major provides students with a strong background in policy analysis, including the evaluation of policy alternatives and the study of factors affecting policy formulation and implementation. Key components of this interdisciplinary training include a general background in the natural sciences relevant to environmental policy, economics, political science, statistics, and research methodology to quantitatively analyze environmental problems and policy options. In addition, students are encouraged to develop substantive knowledge in a specific field of environmental policy, such as urban and regional planning, water policy, transportation and energy, climate policy, or conservation management.

## Careers

Environmental policy analysis and planning graduates are prepared for employment in environmental, natural resource, energy, and transportation focused public agencies, consulting firms, non-governmental organizations, and businesses, or as legislative aides for elected representatives. The major is also excellent preparation for students who want to go on to graduate work in law, planning, public policy, political science, economics, or business.

## Major Advisor

G. Arnold (Environmental Science & Policy)

The major requirements below are in addition to meeting University Degree Requirements (<https://catalog.ucdavis.edu/undergraduate-education/university-degree-requirements/>) & College Degree Requirements (<https://catalog.ucdavis.edu/undergraduate-education/college-degree-requirements/>); unless otherwise noted. The minimum number of units required for the Environmental Policy Analysis & Planning Bachelor of Science is 105.

Code	Title	Units
<b>English Composition &amp; Communication Requirement</b>		
Choose one:		0-4
UWP 101	Advanced Composition	
or UWP 101V	Advanced Composition	
or UWP 101Y	Advanced Composition	
*OR* any course from the UWP 102 or UWP 104 series. ( <a href="https://catalog.ucdavis.edu/courses-subject-code/uwp/">https://catalog.ucdavis.edu/courses-subject-code/uwp/</a> )		
UWP 102G or UWP 104A or UWP 104AV or UWP 104AY or UWP 104B recommended		
Passing the Upper Division English Composition exam.		

Communication		4
Choose one:		
CMN 001	Introduction to Public Speaking	
or CMN 001V	Introduction to Public Speaking	
CMN 003	Interpersonal Communication Competence	
or CMN 003V	Interpersonal Communication Competence	
or CMN 003Y	Interpersonal Communication Competence	
DRA 010	Introduction to Performance & Digital Media	
English Composition & Communication Requirement Subtotal		4-8
<b>Preparatory Subject Matter</b>		
<i>Biological Science</i>		
Choose one:		4-5
BIS 002A	Introduction to Biology: Essentials of Life on Earth	
BIS 002B	Introduction to Biology: Principles of Ecology & Evolution	
BIS 010	Everyday Biology	
<i>Chemistry</i>		
CHE 002A	General Chemistry	4-5
or CHE 010	Concept of Chemistry	
<i>Physics</i>		
PHY 001A	Principles of Physics	3
<i>Second Quarter Natural Science</i>		
Choose one:		3-5
BIS 002B	Introduction to Biology: Principles of Ecology & Evolution	
BIS 002C	Introduction to Biology: Biodiversity & the Tree of Life	
CHE 002B	General Chemistry	
PHY 001B	Principles of Physics	
Cannot use BIS 002B to fulfill both the biological sciences requirement and the second quarter natural science requirement at the same time		
<i>Introduction to Data Analytics</i>		
Choose one:		3-4
CMN/SOC/POL/PSC 012Y	Data Visualization in the Social Sciences	
PLS 021	Application of Computers in Technology	
or PLS 021V	Application of Computers in Technology	
<i>Economics</i>		
ECN 001A	Principles of Microeconomics	4
or ECN 001AV	Principles of Microeconomics	
or ECN 001AY	Principles of Microeconomics	
ECN 001B	Principles of Macroeconomics	4
or ECN 001BV	Principles of Macroeconomics	
<i>Environmental Science</i>		
Choose one:		3-4
ANS 001	Domestic Animals & People	
ATM 060	Introduction to Atmospheric Science	
AVS 013	Birds, Humans & the Environment	
GEL 001	The Earth	
HYD 010	Water, Power, Society	

PLS/SAS 012	Plants & Society	
SSC 010	Soils in Our Environment	
WFC 051	Introduction to Conservation Biology	
<i>Environmental Science &amp; Policy</i>		
ESP 001	Environmental Analysis	4
<i>Mathematics</i>		
Choose one:		3-4
MAT 016A	Short Calculus (Discontinued)	
MAT 017A	Calculus for Biology & Medicine	
MAT 019A	Calculus for Data-Driven Applications	
MAT 021A	Calculus	
Choose one:		3-4
MAT 016B	Short Calculus (Discontinued)	
MAT 017B	Calculus for Biology & Medicine	
MAT 019B	Calculus for Data-Driven Applications	
MAT 021B	Calculus	
<i>Political Science</i>		
POL 001	American National Government	4
or POL 001Y	American National Government	
<i>Statistics</i>		
STA 013	Elementary Statistics	4
or STA 013Y	Elementary Statistics	
or STA 032	Gateway to Statistical Data Science	
Preparatory Subject Matter Subtotal		46-54
<b>Depth Subject Matter</b>		
Students must take these units on a letter grade basis, and must attain an overall grade point average of 2.000 or higher in the Depth Subject Matter courses.		
<i>Environmental Science &amp; Policy</i>		
29		
<i>Evaluation &amp; Analysis</i>		
ESP 110	Principles of Environmental Science	
ESP 160	The Policy Process	
ESP 168A	Methods of Environmental Policy Analysis	
ESP 168B	Methods of Environmental Policy Evaluation	
<i>Environmental Law</i>		
ESP 161	Environmental Law	
<i>Research Design</i>		
ESP 178	Applied Research Methods	
<i>Environmental Impact Assessment</i>		
ESP 179	Environmental Impact Assessment	
<i>Statistics</i>		
Choose one:		4-5
SOC 106	Intermediate Social Statistics	
STA 100	Applied Statistics for Biological Sciences	
STA 103	Applied Statistics for Business & Economics	
STA 108	Applied Statistical Methods: Regression Analysis	
<i>Microeconomics</i>		
Choose one:		4
ARE 100A	Intermediate Microeconomics: Theory of Production & Consumption	

ECN 100A	Intermediate Micro Theory: Consumer & Producer Theory	
or ECN 100AV	Intermediate Micro Theory: Consumer & Producer Theory	
<i>Environmental Data Science</i>		
Choose one:		4
ABT/LDA 150	Introduction to Geographic Information Systems	
ESP 106	Environmental Data Science	
<i>Resource Economics</i>		
Choose one:		4
ARE 176	Environmental Economics	
ECN 125	Energy Economics	
ESP/ARE 175	Natural Resource Economics	
<i>Recommended, Not Required</i>		
ABT 181N	Concepts & Methods in Geographic Information Systems	
ABT/HYD 182	Environmental Analysis Using GIS	
ESM 185	Aerial Photo Interpretation & Remote Sensing	
ESM 186	Environmental Remote Sensing	
Depth Subject Matter Subtotal		45-46
<b>Areas of Specialization</b>		
Students must choose courses in the Areas of Specialization that have not been taken in the Depth Subject Matter.		
Choose one:		10-17
City & Regional Planning (p. 2)		
Climate Change Policy (p. 3)		
Conservation Management (p. 3)		
Energy & Transportation Planning (p. 3)		
Environmental Policy & Politics (p. 3)		
Integrative Policy (p. 4)		
Water Management (p. 4)		
Areas of Specialization Subtotal		10-17
<b>Total Units</b>		<b>105-125</b>

## City & Regional Planning Specialization

Code	Title	Units
<b>Environmental Science &amp; Policy</b>		
ESP 171	Urban & Regional Planning	4
ESP 172	Public Lands Management	4
<i>Choose one</i>		
ECI 165	Transportation Policy	
ESP/ECI 163	Energy & Environmental Aspects of Transportation	
Choose one:		2-5
AHI 168	Great Cities	
CRD 149	Community Development Perspectives on Environmental Justice	
CRD 152	Community Development	
CRD 156	Community Economic Development	
CRD 171	Housing & Social Policy	
ESP 173	Land Use & Growth Controls	

ESP 174	Environmental Justice Policy & Practice	
ETX 110	Toxic Tragedies & Their Impact on Society	
POL 100	Local Government & Politics	
<b>Total Units</b>		<b>10-13</b>

## Climate Change Policy Specialization

Code	Title	Units
<b>Environmental Science &amp; Policy</b>		
ESP 165	Climate Policy	3
Choose one:		4
ARE 176	Environmental Economics	
ECN 125	Energy Economics	
ESP/ECI 163	Energy & Environmental Aspects of Transportation	
ESP 167	Energy Policy	
ESP 171	Urban & Regional Planning	
ESP 174	Environmental Justice Policy & Practice	
Choose two:		6-8
ATM 116	Modern Climate Change	
ATM 133	Biometeorology	
ATM 160	Introduction to Atmospheric Chemistry	
ESM 131	Air as a Resource	
ESP/GEL 116N	Oceanography	
SAS 025	Global Climate Change: Convergence of Biological, Geophysical, & Social Sciences	
or SAS 025V	Global Climate Change: Convergence of Biological, Geophysical, & Social Sciences	
<b>Total Units</b>		<b>13-15</b>

## Conservation Management Specialization

Code	Title	Units
Choose two:		6-8
ESP 166	Ocean & Coastal Policy	
ESP 169	Water Policy & Politics	
ESP 170	Conservation Biology Policy	
ESP 172	Public Lands Management	
ESP 174	Environmental Justice Policy & Practice	
Choose one:		3-5
ENH 160	Restoration Ecology	
ESM 141	Role of Fire in Natural Ecosystems	
ESM 144	Trees & Forests	
ESP 100	General Ecology	
ESP 121	Population Ecology	
ESP 124	Marine & Coastal Field Ecology	
ESP 127	Plant Conservation Biology	
EVE 115	Marine Ecology	
EVE 138	Ecology of Tropical Latitudes	
WFC 126	Conservation in Working Landscapes	
WFC 151	Wildlife Ecology	
WFC 152	Ecology of Human-Wildlife Conflicts	
WFC 154	Conservation Biology	
WFC 155	Wildlife Space Use & Habitat Conservation	

Choose one:		4
AAS 176	The Politics of Resources	
AAS 177	Politics of Life in Africa	
ARE/ECN 115A	Economic Development	
ANT 103	Indigenous Peoples & Natural Resource Conservation	
ASA 114	Asian Diasporas	
CHI 112	Globalization, Transnational Migration, & Chicana/o & Latina/o Communities	
CRD 153A	International Community Development: Asia	
CRD 153B	International Community Development: Europe	
CRD 153C	International Community Development: Africa	
IRE/SOC 104	The Political Economy of International Migration	
SOC 145A	Sociology of Third World Development	
<b>Total Units</b>		<b>13-17</b>

## Energy & Transportation Planning Specialization

Code	Title	Units
Choose one:		3-4
ECN 125	Energy Economics	
ENG 106	Engineering Economics	
ESP/ARE 175	Natural Resource Economics	
Choose two:		7-8
ECI 165	Transportation Policy	
ESP/ECI 163	Energy & Environmental Aspects of Transportation	
ESP 167	Energy Policy	
ESP 172	Public Lands Management	
ESP 174	Environmental Justice Policy & Practice	
Choose one:		3-4
ATM 116	Modern Climate Change	
ECI 123	Urban Systems & Sustainability	
ENG/PHY 160	Environmental Physics & Society	
ESM 131	Air as a Resource	
GEL 130	Non-Renewable Natural Resources	
<b>Total Units</b>		<b>13-16</b>

## Environmental Policy & Politics Specialization

Code	Title	Units
Choose one:		4
POL 100	Local Government & Politics	
POL 104	California State Government & Politics	
POL 105	The Legislative Process	
POL 107	Environmental Politics & Administration	
POL 109	Public Policy & the Governmental Process	
Choose two:		7-8

ECI 165	Transportation Policy
ESP 165	Climate Policy
ESP 166	Ocean & Coastal Policy
ESP 167	Energy Policy
ESP 169	Water Policy & Politics
ESP 170	Conservation Biology Policy
ESP 171	Urban & Regional Planning
ESP 172	Public Lands Management
ESP 174	Environmental Justice Policy & Practice
POL 162	Elections & Voting Behavior
POL 164	Public Opinion
POL 165	Mass Media & Politics
or POL 165V	Mass Media & Politics
POL 170	Political Psychology
Choose one:	4
ARE 106	Econometric Theory & Applications
ARE 176	Environmental Economics
ECI 153	Deterministic Optimization & Design
ECN 130	Public Microeconomics
or ECN 130Y	Public Microeconomics
ESP/ARE 175	Natural Resource Economics
<b>Total Units</b>	<b>15-16</b>

ESP/GEL 116N	Oceanography
ESP 124	Marine & Coastal Field Ecology
ESP/GEL 150C	Biological Oceanography
ESP 152	Coastal Oceanography
<b>Total Units</b>	<b>12-17</b>

## Integrative Policy Specialization

Students choosing this individualized track must consult with a faculty advisor to identify an area of emphasis within this track and to select four upper division courses with a common theme. Possible areas of emphasis are marine policy, pollutants in the environment, planning in the presence of environmental hazards, sustainable development, or environmental and natural resource economics. If you are considering this track, please contact the major advisor as soon as possible.

**Total Units: 12-16**

## Water Management Specialization

Code	Title	Units
Choose two:		6-7
ESP 166	Ocean & Coastal Policy	
ESP 169	Water Policy & Politics	
ESP 174	Environmental Justice Policy & Practice	
HYD 150	Water Law	
Choose two:		6-10
ESM 100	Principles of Hydrologic Science	
ESM 121	Water Science & Management	
ESM 125	River Conservation	
ESP 151	Limnology	
ESP 155	Wetland Ecology	
GEL 134	Environmental Geology & Land Use Planning	
HYD 141	Physical Hydrology	
HYD 143	Ecohydrology	
SSC 118	Soils in Land Use & the Environment	
WFC 120	Biology & Conservation of Fishes	
BIS 124	Coastal Marine Research	