

SUSTAINABILITY, ECOLOGY AND POLICY B.S.

All students must meet the Degree and University Requirements.

All students must meet the Catamount Core Curriculum Requirements.

All students must meet the Rubenstein Core Curriculum Requirements.

Three concentrations are available under the Sustainability, Ecology and Policy major:

Applied Ecology Concentration (p. 1)

Environmental Planning, Policy and Law Concentration (p. 3)

Integrated Natural Resources Concentration (p. 4)

Dual-Degree Programs: The University of Vermont (UVM) and Vermont Law and Graduate School (VLGS) also offer unique 3+2 and 3+3 dual-degree programs. The dual-degree programs enable highly-focused students to earn both degrees in less time and at less cost from two distinguished institutions. In addition to the dual-degree programs, VLGS offers a guaranteed admission program for UVM graduates. Students who select the concentration in Environmental Planning, Policy and Law are well-positioned to complete the UVM/VLGS 3+2 and 3+3 programs, and earn a BS in Sustainability, Ecology and Policy and a Juris Doctor (JD) in five or six years. Students who wish to pursue this opportunity should consult with the Director of the Sustainability, Ecology and Policy Program about their academic plans.

APPLIED ECOLOGY CONCENTRATION

The Applied Ecology curriculum explores the biology and ecology of plants and animals in both aquatic and terrestrial systems and allows students to select courses around specific individual interests. Please note that courses taken for concentrations may NOT be double-counted for distribution requirements.

A total of 120 credits is required for the degree.

Required Courses

Requirement Description		Credits
BCOR 1400	Exploring Biology 1	0 or 4
or BIOL 1400	Principles of Biology 1	
or BIOL 1000	AP Biology 1	
BCOR 1450	Exploring Biology 2	0 or 4
or BIOL 1450	Principles of Biology 2	
CHEM 1100	Outline: General Chem w/lab	4-8

or CHEM 1400 & CHEM 1450	General Chemistry 1 and General Chemistry 2	
CHEM 1150	Outline: Organic & BIOC w/lab	4-8
or CHEM 1580	Intro Organic Chemistry w/lab	
or CHEM 2580 & CHEM 2585	Organic Chemistry 1 and Organic Chemistry 2	
FOR 2110	Nat Res Ecol and Assessment 1	4
ENSC 2490	Climate Change II ³	1 or 3
or SEP 2880	Sustainability Science	
or NR 2740	CR: Sustainability Theory&Prac	
MATH 1212	Fundamentals of Calculus I	3
NR 2100	Environmental Communication	3
NR 2400	Applied Environ Statistics	4
NR 2430	Intro to Geog Info Systems	3
or NR 2460	Remote Sensing	
Students chose at least 9 credits in Strong Ecological Content courses from the following list, in consultation with their advisor.		9
ALE 3120	Advanced Agroecology	
ALE 3680	Soil Ecology	
BCOR 2100	Ecology and Evolution	
BIOL 2105	Introduction to Marine Science	
BIOL 3100	Plant-Animal Interactions	
BIOL 3105	Community Ecology	
BIOL 3130	Behavioral Ecology	
BIOL 3165	Evolution	
ENSC 2480	Global Environmental Change	
or GEOG 2250	Global Environmental Change	
ENSC 4010	Recovery&Restor Altered Ecosys	
FOR 2220	Forest Ecosystem Analysis	
FOR 3350	Forest Ecosystem Health	
MMG 3200	Environmental Microbiology	
NR 2760	Tropical Ecology in CR	
PBIO 3220	Ecological Invasions	
PBIO 3750	Global Change Ecology	
SEP 4050	Field Ecology Practicum	

SEP 4200	Landscape Ecology	
SEP 4280	Ecosystem Ecology	
SEP 4500	Limnology	
SEP 4800	Stream Ecology	
WFB 3100	Wildlife Disease Ecology	
WFB 3240	Conservation Biology	
WFB 4830	Terrestrial Wildlife Ecology	
Students choose up to 18 credits (to total 27) in courses to Contribute to, or Expand Ecological Understanding, or Strong Ecological Content, in consultation with their advisor.		18
ALE 2120	Weed Ecology & Management	
ALE 2610	Fundamentals of Soil Science	
ALE 3320	Biological Control	
ALE 3380	Ecological Landscape Design	
ALE 3640	Chemistry of Soil & Water	
ASCI 2700	Wildlife Hlth & Consvration	
BIOL 2300	Vertebrate Zoology	
BIOL 3160	Sociobiology	
BIOL 4245	Mammalogy	
BIOL 4260	Population Genetics	
ENSC 2490	Climate Change II ³	
FOR 1210	Dendrology	
FOR 2570	Wildland Fire	
FOR 3230	Multi-Resource Silviculture	
GEOG 1200	Weather, Climate & Landscapes	
GEOG 2230	Climatology: Concepts & Tools	
GEOG 2715	The Circumpolar Arctic	
GEOL 1400	Environmental Geology	
GEOL 2405	Environmental Geochemistry	
GEOL 3410	Geomorphology	
GEOL 3515	Field Geology	
GEOL 4405	Geochemistry of Natural Waters	
NR 2300	Landscape Restor & Leadership	
NR 2430	Intro to Geog Info Systems ³	
NR 2460	Remote Sensing ³	
NR 2730	Landscape Natural History	

NR 3430	Adv Geospatial Techniques	
PBIO 2040	Plant Physiology	
PBIO 2080	Morph & Evo of Vascular Plants	
PBIO 2090	Plant Systematics	
PBIO 2330	How Plants Can Save the World	
	or ENVS 2660 How Plants Can Save the World	
PBIO 2770	Biology of Fungi	
PBIO 2890	Ecuador: Natural History	
PBIO 3090	Biology of Ferns	
PBIO 3320	Plant Systematics in Costa Rica	
SEP 2020	Water as a Natural Resource	
SEP 2880	Sustainability Science ³	
SEP 3880	Ecological Design & Living Tec	
SEP 4090	Adaptation to Climate Change	
WFB 2300	Ornithology	
WFB 2310	Field Ornithology	
WFB 2410	Field Herpetology	
WFB 4320	Ichthyology	
WFB 4750	Wildlife Behavior	
Additional Options:		
SEP 2991	Internship ¹	
SEP 2993	Independent Study ¹	
SEP 2995	Undergraduate Research ¹	
SEP 3991	Internship ¹	
SEP 3993	Independent Study ¹	
SEP 3995	Undergraduate Research ¹	
SEP 3996	Honors ²	
SEP 4996	Honors ²	

¹ A maximum of 6 credits may count toward either strong ecological content OR expands ecological understanding with the Program Director's approval and with the completion of an Experiential Learning Plan prior to the start of the internship/study/research work.

² A maximum of 3 credits may count toward either strong ecological content OR expands ecological understanding with the Program Director's approval.

³ May not double count for required courses.

Any course substitution request should be approved prior to the end of the add/drop period for the semester in which the student plans to enroll in the substitute course.

ENVIRONMENTAL PLANNING, POLICY AND LAW CONCENTRATION

The Environmental Planning, Policy and Law curriculum explores interactions among individuals, communities, and society with nature, resources, and the environment. It allows students to select courses around specific individual interests such as natural resource planning and community, policy and economic dimensions of resource planning, and international dimensions of resource planning. Please note that courses taken for concentrations may NOT be double-counted for distribution requirements.

A total of 120 credits is required for the degree.

Required Courses

Requirement Description		Credits
ANTH 1100	Cultural Anthropology	3
or GEOG 1760	Global Environments & Cultures	
ENSC 2490	Climate Change II	1 or 3
or SEP 2880	Sustainability Science	
or NR 2740	CR: Sustainability Theory&Prac	
CDAE 1020	World Food,Pop & Develop	3-4
or ENVS 1510	Solutions in Enviro Studies	
ECON 1400	Principles of Macroeconomics	3
or ECON 1450	Principles of Microeconomics	
or CDAE 1610	Principles of Comm Dev Econ	
NR 2100	Environmental Communication	3
NR 2400	Applied Environ Statistics	0 or 4
or NR 2401	Intro Environmental Statistics	
or STAT 1050	Stat & Social Justice	
or STAT 1110	Elements of Statistics	
or STAT 1410	Basic Statistical Methods 1	
POLS 1300	US Political System	3
or POLS 1700	Comparative World Politics	
or POLS 1500	Intro International Relations	
PHIL 1600	Ethics	3
or PHIL 1635	Ethics of Eating	
or PHIL 1630	Environmental Ethics	

or CDAE 3080	Agricultural Policy and Ethics	
SOC 1500	Introduction to Sociology	3
or SOC 1100	Social Problems	
Students choose 21 credits in Content Courses from the following list in consultation with their advisor.		21
ANTH 2152	Environmental Anthropology	
or ENVS 2410	Environmental Anthropology	
ASCI 2600	Zoos, Exotics & Endang Species	
ASCI 3600	Adv Top:Zoo,Exotic,Endang Spec	
CDAE 2020	Sustainable Community Dev	
CDAE 2860	Community Developmt:St Lucia I	
CDAE 3070	The Real Cost of Food	
CDAE 3080	Agricultural Policy and Ethics ³	
CDAE 3180	Community Org & Development	
CDAE 3370	Economics of Sustainability	
CDAE 3510	Contemp Policy Iss:Comm Dev	
CDAE 3600	Smart Resilient Communities	
ECON 1280	Economics of Climate Change	
ECON 2800	Econ of Environmental Policy	
or ENVS 2420	Econ of Environmental Policy	
ENVS 2220	Ecofeminism	
or GSWS 2811	Ecofeminism	
ENVS 2240	Gender, Space & Environment	
or GEOG 2774	Gender, Space & Environment	
or GSWS 2735	Gender, Space & Environment	
GEOG 2707	Restoration Cultures	
or ENVS 2982	Restoration Cultures	
GEOG 2760	Rural Geography	
or ENVS 2433	Rural Geography	
GEOG 2774	Gender, Space & Environment	
GEOG 2780	Political Ecology	
GEOG 2790	Urban Geography	
NR 2750	Rural Lives in Global World	
NR 3370	Human Ecology & Health-Arctic	
PHIL 2630	Topics in Environmental Ethics	

or ENVS 2250	Topics in Environmental Ethics	
POLS 2460	US Environmental Politics	
or ENVS 2460	US Environmental Politics	
POLS 2560	Int'l Environmental Governance	
or ENVS 2462	Int'l Environmental Governance	
PRT 1500	Tourism Planning	
PRT 3300	Ecotourism	
PRT 4350	Outdoor Recreation Planning	
PRT 4550	Environmental Interpretation ⁴	
SEP 2020	Water as a Natural Resource	
SEP 2810	Environmental Justice	
SEP 2410	Intro to Ecological Economics	
SEP 2530	Intro to Environmental Policy	
SEP 3360	Women's Health and Environment	
SEP 3370	Arctic Env, Society & Politics	
SEP 3930	Environmental Law	
SEP 4350	Legal Aspects of Envi Planning	
SEP 3904	Energy and Climate Law	
SEP 3950	Environmental Education	
SOC 2450	Population, Environment & Soc	
SOC 2460	Sociology of Disaster	
SOC 3450	Adv Environmental Sociology	
NR 4640	C Ross Env Pb Srv Practicum ⁴	
Students choose 6 credits in Tools Courses from the following list, in consultation with their advisor.		6
ALE 2370	Landscape Design Fundamentals	
or CDAE 2370	Landscape Design Fundamentals	
or ENVS 2650	Landscape Design Fundamentals	
ALE 3380	Ecological Landscape Design	
ANTH 3130	Ethnographic Field Methods	
CDAE 2230	Media-Policy-Action	
CDAE 2420	Communicating Climate Crises	
CDAE 3730	Project Development & Planning	
ENSC 2300	Global Environmental Assessmnt	
GEOG 2510	Geog Info:Cncpts & Applic	

NR 2430	Intro to Geog Info Systems	
NR 2460	Remote Sensing	
NR 3430	Adv Geospatial Techniques	
NR 4640	C Ross Env Pb Srv Practicum ⁴	
NR 4430	GIS Practicum	
POLS 2800	Social Research Methods	
or SOC 2500	Social Research Methods	
PRT 4550	Environmental Interpretation ⁴	
SEP 2060	Kincentric Ecology	
SEP 3880	Ecological Design & Living Tec	
SEP 3950	Environmental Education	
SPCH 1615	Debating Global Issues	
6 credits of a modern foreign language		
Additional Options:		
SEP 2991	Internship ¹	
SEP 2993	Independent Study ¹	
SEP 2995	Undergraduate Research ¹	
SEP 3991	Internship ¹	
SEP 3993	Independent Study ¹	
SEP 3995	Undergraduate Research ¹	
SEP 3996	Honors ²	
SEP 4996	Honors ²	

¹ A maximum of 6 credits may count toward either content courses OR tools courses with the Program Director's approval and with the completion of an Experiential Learning Plan prior to the start of the internship/study/research work.

² A maximum of 3 credits may count toward either content courses OR tools courses with the Program Director's approval.

³ May not double count for both required courses and option electives.

⁴ May be counted as either content or tools but may **NOT** be double counted.

Any course substitution request should be approved prior to the end of the add/drop period for the semester in which the student plans to enroll in the substitute course.

INTEGRATED NATURAL RESOURCES CONCENTRATION

Integrated Natural Resources (INR) is a self-designed major. INR is the right choice for students who have strong interests in natural

resources and the environment, clear academic direction, and the motivation to develop a well-focused, personally meaningful course of study. Working closely with a faculty advisor, the student builds on a solid foundation of natural resources courses to create an individualized program that combines course work from disciplines within and outside the school.

A total of 120 credits is required for the degree.

Required courses

(minimum nine credits)

Requirement Description		Credits
NR 2100	Environmental Communication	
NR 2400	Applied Environ Statistics	
or NR 2401	Intro Environmental Statistics	
or STAT 1050	Stat & Social Justice	
or STAT 1110	Elements of Statistics	
or STAT 1410	Basic Statistical Methods 1	
NR 2990	Special Topics (When topic is INR Planning))	
Students select from a list of approved courses, at least one course in each of three areas:		
Biology/ecology		
NR courses in social sciences		
Quantitative and analytical methods		
These courses are in addition to those taken to fulfill RSENR's general education requirements. The list of approved courses is available on the RSENR website.		

Individualized Program of Study

(minimum 39 credits)

The student develops an Individualized Program of Study composed primarily of intermediate level RSENR courses (ENSC, FOR, NR, SEP, PRT or WFB prefix). This must include at least 24 credits inside the school and no more than 6 credits below the 2000-level. With careful selection of courses, students develop concentrations such as Environmental Education, Sustainable Resource Management, Environmental Health, and Spatial Analysis of Natural Resources. All programs of study must be endorsed by the advisor, then approved by the faculty. If not approved, the student may not continue in the INR concentration and must seek another major. The program of study is to be approved by the end of the sophomore year (sixty credits). Transfer students with more than sixty credits must have a program of study approved as part of the transfer application. It is expected that transfer students will be active in the program for at least 2 years (4 semesters) after transferring into the INR concentration. Any course substitution request should be approved prior to the end of the add/

drop period for the semester in which the student plans to enroll in the substitute course.