

Environmental Economics: Students obtain a solid background in economic theory and learn how important static and dynamic allocation problems arise when managing resources and environmental quality.

Environmental Information Science: Students obtain a critical understanding of the collection and use of environmental information, as well as to support students in developing skills necessary to acquire, process, and analyze environmental information.

Or, students may pursue a Student-designed Concentration: If you are interested to design your own concentration, please contact Suzanne, sw38@cornell.edu for more information.

Some examples:

Environment and Public Policy:

In addition to courses in natural systems or in built environments, a student might study ethics, democracy, and social problems.

Environmental Communications:

Greater depth in communication with courses on concepts and techniques might be combined with specialized courses dealing with environmental issues and policies.

Oceanography/Marine Science:

Interest in the physical, biological, or public policy aspects of oceans could be pursued through a variety of specialized courses in the Shoals Program, Earth and Atmospheric Sciences, or the Hawaii course, among many choices.

Sustainability:

The program of study could take many directions from in-depth work on technologies (e.g., energy, transportation), economic and social systems, systems analysis, to global environmental change. Students with interest in the built environment might utilize courses in City and Regional Planning, Design and Environmental Analysis, and engineering disciplines.

Courses for Concentrations

I. Environmental Agriculture

*Choose one course from each group with at least **two** courses containing experimental work (*).*

Group 1: Systems Course

ANSC/CSS 4120	Whole-Farm Nutrient Management	(Spring)
BIOEE/HORT 4730	Ecology of Agricultural Systems	(Fall)
CSS/IARD 4140	Tropical Cropping Systems: Biodiversity, Social, and Environmental Impacts	(Fall)
NTRES 4800	Global Seminar: Building Sustainable Environments and Secure Food Systems for a Modern World	(Spring)

Group 2: Biotechnology

BIOMI/CSS 3970	Environmental Microbiology	(Spring)
BIOPL 3430	Molecular Biology and Genetic Engineering of Plants	(Spring)
BIOPL/CSS 3470	Laboratory in Molecular Biology & Genetic Engineering of Plants (*)	(Spring)
CSS 4100	The GMO Debate: Environmental Impacts	(Spring)
PLBR 2010	Plants, Genes, and Global Food Production	(Fall)

Group 3: Crop Protection and the Environment

CSS 3150	Weed Biology and Management (*)	(Fall)
CSS/ENTOM 4440	Integrated Pest Management (*)	(Spring)
ENTOM 3070	Pesticides, the Environment and Human Health	(Fall)
ENTOM 2410	Applied Entomology in the Field	(Fall)
PLPA 3010	Biology and Management of Plant Diseases	(Fall)

Group 4: Soil Management

CSS 3210	Soil Management for Sustainability	(Spring)
CSS 4720	Nutrient Management in Agroecosystems (*)	(Spring)
CSS/HORT 4660	Soil Ecology (*)	(Spring)
CSS/EAS 4830	Environmental Biophysics	(Fall)

Group 5: Crop and Animal Production

ANSC	3510	Dairy Herd Management	(Spring)
CSS	4050	Field Crop Systems	(Fall)
HORT	4420	Berry Crops: Culture and Management	(Fall)
HORT	4450	Ecological Orchard Management	(Spring)
NTRES	3250	Forest Management and Maple Syrup Production (or related course on production)	(Spring)

II. Environmental Biology

Choose **six** courses to complete the concentration.

Group 1: Foundations in Biology Choose **two** courses.

Biochemistry	BIOBM 3300	Principles of Biochemistry, Individual Instruction	(Fall/Spring)
or	BIOBM 3330	Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology	(Summer)
or	the sequence BIOBM 3310/BIOBM 3320	Principles of Biochemistry: Proteins and Metabolism	(Fall)
Evolution	BIOPL 4480	Plant Evolution & the Fossil Record	(Spring)
Genetics	BIOGD 2810	Genetics	(Fall/Spring)
	ENTOM 4700	Ecological Genetics	(Spring)
or	NTRES 2830	Genetics for Population Biologists	(Spring)

Group 2: The Physical and Biological Environment Choose **two** courses.

BEE	3710	Hydrology and the Environment	(Spring)
BIOEE	4570	Limnology: Ecology of Lakes (alternate years)	(Spring)
BIOEE	4620	Marine Ecology (alternate years)	(Fall)
BIOEE	4780	Ecosystem Biology (alternate years, next 2013)	(Spring)
CSS	4660	Soil Ecology	(Spring)
CSS/EAS	4830	Environmental Biophysics (4)	(Fall)
EAS/BIOEE	3500	Dynamics of Marine Ecosystems	(Fall)
NTRES	3220	Global Ecology and Management	(Spring)
NTRES/BIOEE	4560	Stream Ecology (alternate years)	(Fall)

Group 3: Plants, Animals, Microbes and the Environment Choose **two** courses.

BIOEE	4660	Physiological Plant Ecology, Lectures (alternate years)	(Spring)
BIOEE	4700/4720	Herpetology Lectures/Laboratory	(Spring)
BIOEE	4750	Ornithology	(Spring)
BIOEE	4760	Biology of Fishes	(Fall)
BIOMI	2900	General Microbiology	(Fall/Spring)
BIOMI/CSS	3970	Environmental Microbiology	(Spring)
BIOMI	4180	Microbial Ecology	(Spring)
CSS	3150	Weed Biology and Management	(Fall)
ENTOM	2120	Insect Biology	(Fall)
ENTOM	3440	Insect Conservation Biology	(Spring)
ENTOM	3070	Pesticides, the Environment and Human Health	(Fall)
ENTOM/BIOEE	4550	Insect Ecology	(Fall)
HORT	4400	Restoration Ecology	(Fall)
NTRES	3110	Fish Ecology, Conservation and Management	(Spring)
NTRES	3140	Conservation of Birds	(Summer)
NTRES	4100	Conservation Biology	(Fall)
NTRES	4110	Quantitative Ecology and Management of Fisheries Resources	(Spring)
NTRES	4120	Wildlife Population Analysis	(Spring)
NTRES	4200	Forest Ecology	(Fall)

NTRES	4220	Wetland Ecology and Management	(Fall)
PLPA	3010	Biology and Management of Plant Diseases	(Fall)
PLPA	3090	Fungi	(Fall)
PLPA	4010	Microbial Pathogens vs Plants: Molecular Weapons, Defenses, and Rules of Engagement	(Spring)
PLPA	4020	Biology of Plant Pathogens	(Spring)
PLPA	4330	Disease Ecology	(Fall)

III. Environmental Economics

Required.

AEM	4500	Resource Economics	(Fall)
AEM	4510	Environmental Economics	(Spring)
ECON	1110	Introductory Microeconomics	(Fall, Spring, Winter & Summer)
ECON	1120	Introductory Macroeconomics	(Fall, Spring, Winter & Summer)
ECON	3030	Intermediate Microeconomic Theory	(Fall, Spring, & Summer)
ECON	3040	Intermediate Macroeconomic Theory	(Fall, Spring, & Summer)

Choose one course.

AEM	4110	Introduction to Econometrics	(Fall)
AEM	4120	Computational Methods for Management and Economics	(Spring)
BEE	4750	Environmental Systems Analysis	(Fall)
CRP/NTRES	4440	Resource Management and Environmental Law	(Spring)

IV. Environmental Information Science

Information Acquisition

Group 1: Remote Information Acquisition *Choose one course.*

CSS/CEE	4110	Remote Sensing for Environmental Resource Inventory	(Fall)
CSS 6600/CEE 6100		Remote Sensing Fundamentals	(Fall)

Group 2: Ground-based Information Acquisition *Choose two courses.*

BEE	4270	Water Sampling and Measurement	(Fall)
BIOEE	2630	Field Ecology	(Fall)
BIOEE	4560	Stream Ecology (alternate years)	(Fall)
COMM	2820	Research Methods in Communication Studies	(Fall)
DSOC	3130	Social Indicators and Research	(Fall)
EAS	3010	Evolution of the Earth System	(Fall)
EAS	4170	Field Mapping in Argentina	(Summer)
EAS	4370	Geophysical Field Methods	(Fall)
NTRES	4200/4201	Forest Ecology	(Fall)
NTRES	4220/4221	Wetland Ecology and Management	(Fall)

Information Processing *Choose one course.*

CEE	6150	Digital Image Processing	(Spring)
CRP	4080	Introduction to GIS	(Spring)
CSS	4200	Geographic Information Systems	(Spring)
CSS	6200	Spatial Modeling and Analysis	(Spring)

Information Analysis *Choose one course.*

BEE	4750	Environmental Systems Analysis	(Fall)
BIOEE	3620	Dynamic Models in Biology	(Spring)
NTRES	3100	Applied Population Ecology	(Fall)
NTRES	4110	Quantitative Ecology and Management of Fisheries Resources	(Spring)
NTRES	4120	Wildlife Population Analysis: Techniques and Models	(Spring)
NTRES	4240	Landscape Impact Analysis	(Spring)