Welcome

Welcome to Cornell and the Environmental and Sustainability Sciences (ESS) major in the College of Agriculture and Life Sciences (CALS) and College of Arts and Sciences (A&S). A diverse set of faculty advisors from many departments and these two primary colleges will help you pursue an interdisciplinary, sustainability-focused education. This orientation guide provides some details about the ESS curriculum, faculty, students, and other academic information.

The ESS major has expanded this academic year (2018-19) to allow A&S students to matriculate in the same major as CALS students. A new curriculum accompanying this expansion will provide an academic focus that encompasses Cornell’s strengths in environmental sciences, social sciences and humanities, which are dispersed across multiple departments and colleges.

Six concentrations in ESS are now available, including a new Environmental Humanities concentration, along with the five previously available (Environmental Biology and Applied Ecology; Environmental Economics; Environmental Policy and Governance; Land, Air and Water Resources; and an Individualized, Student-Designed concentration).

Looking beyond the major, you will have available many opportunities during your time at Cornell that extend beyond your coursework. Ithaca is a gorgeous place, so take time to enjoy the environment outside the classroom. At some point you may also get involved in research, teaching, or outreach efforts at Cornell or institutions throughout the world. You may be employed or volunteer to work with community and activist groups, help with a political campaign, or run for office yourself. But your success will start by building a foundation of knowledge and skills that are grounded and demonstrated in your coursework, so remain attentive to that as you explore the vast array of opportunities ahead of you. The people and options described in the following pages are here to help you get started.

Incoming Students........................................................................................................................................... 2
Fall 2018: Enrollment Information.................................................................................................................... 4
Environmental and Sustainability Sciences (ESS).............................................................................................. 5
  Core Curriculum and Summary of Requirements .............................................. 6
  AP Credit and S/U Guidelines................................................................................. 8
  Quantitative Proficiency ........................................................................................... 9
  Description of ESS Concentrations................................................................. 12
  Integrative Education: Knowledge Beyond the Classroom.......................... 21
Your Responsibility/Helpful Links.................................................................................................................. 23
Role of Your Advisor/Making the Most of Your Academic Advisor................ 24
Academic Advisors in Environmental and Sustainability Sciences ............ 25
Words of Wisdom from Your Peers ........................................................................ 37
Graduate Highlights: Class of 2018...................................................................... 38
Resources......................................................................................................................................................... 42
Incoming Students

ESS FRESHMAN CLASS OF 2022

We welcome the Class of 2022, including 71 first-year students in the Environmental and Sustainability Sciences (ESS) major. Your ESS class consists of students from fourteen U.S. states and five other countries, including 41 students from NY; 1 student from D.C., 25 students from twelve other states (AR, CA, CT, FL, IL, MA, ME, OH, PA, TX, VA, WI), and five students from four different countries (Canada, China, Singapore, and South Korea).

Aneesha Aggarwal - Staten Island, NY
Jamie Anderluh - Arlington Heights, IL
Joshua Appel – Stamford, CT
Brittany Beckwith – Apopka, FL
Grace Bichler – Cuba, NY
Chase Brakel – Winnipeg, MB
Sara Brockman – Atherton, CA
Hannah Castelo - North Chesterfield, VA
Raquel Castromonte – Corona, NY
Yulin Chen – Beijing, China
Matthew Creighton – Slingerlands, NY
Tia Culbreath – Brooklyn, NY
Amy Daniel - Brooklyn, NY
Devon Davis - Delray Beach, FL
Benedict DeMoras - Penn Yan, NY
Yuting Deng – Baotou, China
Eric Dusenberry – Ithaca, NY
Madeline Elliott – Canajoharie, NY
Megan Feely – Trumansburg, NY
Lindsey Forg – Lexington, MA
Annika Gerlach – Nevada, OH
Johanna Gertin – Rochester, NY
Cassidy Graham - East Bethany, NY
Marcus Grote - New York, NY
Julia Gustafson – Cortland, NY
Mary Henderson – Orinda, CA
Taylor Herne – Warmer, NY
Benjamin Hopkins – Stillwater, NY
Joshua Jacobs - Valley Stream, NY
Julianna Jeswald - West Seneca, NY
Jessica Jiang - Great Neck, NY
Yunhao Jiang - Singapore
Peter Jordan – Portland, ME
Marianne Juca – Larchmont, NY
Lauren Kann – Suffern, NY
Della Keahna Uran – Hayward, WI

Johanna Keigler - Wellesley Hills, MA
Anna Kieffer – Granville, OH
Isabella Kong – Claremont, CA
Mary Konka – Bliss, NY
Frances Lach – Brooklyn, NY
Changhee Lee – Seoul, South Korea
Logan Leeds - Queens Village, NY
Leigh Miller – Lansing, NY
Nathan Miles - New York, NY
Sydney Mittiga – Geneva, NY
YoungSeok Na – Watervliet, NY
Kahan Newsom – Eddington, ME
John Ninia – Setauket, NY
Melina Pakey-Rodriguez – Urbana, IL
Ashley Park - Los Angeles, CA
Bradford Phelps – Manhasset, NY
Kristina Pieraccini – Whitestone, NY
George Rogalskyj – Livonia, NY
Leander Ruhl - Buffalo, NY
Everett Sanderson – Bronx, NY
Cloris Shaw-Baker – Philadelphia, PA
Kari Si – Fayetteville, AR
Philip Sisser – Chappaqua, NY
John Spilker – Naples, FL
Tabufor Junior Tabufor – Forney, TX
Hayley Tessler – Poughquag, NY
Zacharia Thurston - New Albany, OH
Teodor Topa – Washington, D.C.
Audrey Vinton – Rochester, NY
Katherine Warren – Greenwich, CT
Olivia Weinberg - Briarcliff Manor, NY
Nicholas Xu - Los Angeles, CA
Grace Younglund – Fresno, CA
Kelly Zhan – Brooklyn, NY
Jenny Zigward - New York, NY
TRANSFERS MATRICULATING FROM OTHER COLLEGES

We also welcome 38 external transfer students, 4 internal transfer students and 1 International Exchange student to the sophomore class of Environmental and Sustainability Sciences (ESS) majors.

Dawna Badie – Tewksbury, MA
Lily Bermel - Chestnut Hill, MA
Ada Chai – Brightton, MA
Lauren Chung - Rolling Hills Estates, CA
Aidan Cole - Van Nuys, CA
WenYi Cui – Beijing BJ, China
Brandon Cullen - Bay Shore, NY
Angelina DeBenedet - North Haven, CT
Yuting Deng – Beijing BJ, China
Alex Ding - Syosset, NY
Alexis Eggleston – Henderson, NV
Alexandra Ellis - Lake Charles, LA
Zane Emery – Carlsbad, CA
Darien Fiorino – Hillsdale, NJ
Pritha Halder – Princeton, NJ
Hana Hogan – Belmont, CA
Matthew Janson – Charlotte, NC
Manlin Jia – Bridgewater, NJ
Cassondra Kelly – Stamford, CT
Bjorn Kroes – Lake Placid, NY
Matthew Kwok – Rochester, NY
Rachel Larrivee – Bedford, NH
Elizabeth Leape – Washington, D.C.
Michael Laumakis - San Diego, CA
Chelsea Lee – Arcadia, CA
Jacob Llodra – Groton, MA
Ava McDonough – Charlottesville, VA
Stephanie Neitlich – Smithtown, NY
Anna Maria Poslednik – Maspeth, NY
Emily Prest – Tampa, FL
Sachi Rai – Fulton, MD
Devika Rao – Morganville, NJ
Serene Raslan - Agoura Hills, CA
Chelsea Russ – Chesapeake, VA
Myron Schul – Berlin, DEU
Angela Shen – Fremont, CA
Christine Sit – Douglasville, GA
Brooke Su – Tustin, CA
Sackett Terry – Englewood, CO
Eric Yu – Milpitas, CA
Karen Zhan – Jamesville, NY
Josephine Zeng – Brooklyn, NY

University of Massachusetts, Amherst
Principia College
Boston University
University of California, Los Angeles
University of Washington
China Agriculture University
Suffolk County Community College
Clark University
China Agriculture University
Vassar College
University of Nevada, Las Vegas
Miami University-Oxford
Mira Costa College
American University
Stony Brook University
University of California, Davis
Central Piedmont Community College
College of New Jersey
Villanova University
Cornell University
St. Lawrence University
Providence College
Cornell University
University of Miami
University of California, Davis
University of Massachusetts, Amherst
Cornell University
University of Delaware
Stony Brook University
Lehigh University
University of Maryland
Rutgers University
Pepperdine University-LA.
College of Charleston
University of California, Davis
University of Illinois
Georgia Institute of Technology
University of California, Santa Barbara
Hamilton College
University of California, Davis
Cornell University
New York University

INTERNATIONAL EXCHANGE STUDENTS
Sheryl Jing Yi Lim
National University of Singapore
Fall 2018: Enrollment Information

**Deadlines:**
- September 6  Last day to ADD a first-year writing seminar
- September 6  Last day to ADD classes and choose/change credit hours
- October 18   Last day to DROP a course and change grade option without filing a petition for withdrawal

Change requests after the deadline require a petition and approval from the College's Committee on Academic Achievement and Petitions: http://cals.cornell.edu/academics/advising/academic/petitions/

**Note:** To be a full-time student you need 12 academic credits each semester. PE and supplemental courses (any course numbered below 1100) do not count towards full-time standing.

Academic Calendar: http://www.cornell.edu/academics/calendar/
Course and Time Rosters: https://classes.cornell.edu/browse/roster/FA18
Cornell Events Calendar: http://events.cornell.edu/
New Student Orientation Guide: https://ccengagement.cornell.edu/new-student-programs/orientation/august-orientation

**Other dates of interest:**

**Saturday, August 25**  ECO Fest  
*3:00 – 5:30pm, Robert Purcell Community Center, 1st Floor*  
Explore more than 40 student organizations pursuing sustainable solutions to complex problems, spanning such topics as reducing Cornell's carbon footprint, beekeeping, and providing clean water worldwide.

**Wednesday, August 29**  International Fair  
*11:30am – 2:00pm, Uris Hall Terrace*  
Discover options to pursue international studies by talking with representatives from programs offered at Cornell and elsewhere. Explore funding and fellowships, study abroad options, language learning, internships, service learning.

**Wednesday, August 29**  Sustainability Dinner  
*5:30pm – 8:00pm, Robert Purcell Marketplace Eatery*  
Use your meal swipe to enjoy a sustainably sourced dinner. Hosted by Cornell's Environmental Collaborative (ECO), Cornell Dining, and the Campus Sustainability Office (CSO). Featuring food, giveaways, and prizes.

**September 5/6**  University Career Fair Days  
*10:00am – 3:00pm, Barton Hall*  
An opportunity for Cornell students to meet with representatives from organizations interested in hiring Corneliass. In 2018, Career Fair Days will take place for two days. Day One will feature engineering and technical employers and Day Two will include employers from all industries.  
http://www.career.cornell.edu/events/university_fair/info.cfm

**Sunday, September 9**  ClubFest  
*1:00 – 4:00 pm in Barton Hall and Tatkon Center*  
A celebration of Cornell's amazing student groups! ClubFest showcases over 300 registered student organizations on campus. Approximately 3,000 students make their way to Club Fest to experience the incredible variety of interests and opportunities available through the organizations represented. Discover clubs that pique your interests.
Environmental and Sustainability Sciences (ESS)

The curriculum in Environmental and Sustainability Sciences (ESS) is designed to advance the ability of students to understand and address contemporary environmental issues. This goal requires an interdisciplinary and integrated undergraduate experience that provides both breadth and depth in understanding the causes and consequences of changing environments throughout the world. The curriculum relies upon a core foundation in biology, physical & social science, humanities, economics, and statistics, as well as the integration of these topics of study. In addition, the ESS curriculum provides flexibility to pursue greater depth in specific disciplines encompassing environment and sustainability issues, while taking advantage of Cornell’s diverse range of courses and opportunities.

CURRICULUM for 2018-2019 ACADEMIC YEAR

The ESS major requires an interdisciplinary set of core courses coupled with completing more advanced courses in a thematic concentration. All ESS students are required to complete the core curriculum. In addition, all students must select one of six concentrations that require additional courses. The concentrations are Environmental Biology and Applied Ecology (EBAE), Environmental Economics (EE), Environmental Humanities (EH), Environmental Policy and Governance (EPG), Land, Air and Water Resources (LAWR), and the Individual Student-Designed Concentration (ISD). Descriptions of the concentrations, their course requirements and lists of electives begin on page 12.

Many courses within the ESS core curriculum will simultaneously satisfy CALS distribution requirements. Also, depending on the concentration, some courses within the concentrations also meet CALS distribution requirements. However, no course may be double-counted as meeting both ESS core curriculum requirements and ESS concentration requirements.

Environmental and Sustainability Sciences: http://ess.cals.cornell.edu

Kelantan, Malaysia (July 2016)
CORE CURRICULUM

The ESS Core Curriculum lists courses required of all students. This curriculum provides fundamental knowledge of the biological, social, chemical and physical sciences, humanities, economics, and statistics. These proficiencies provide a foundation for upper-level courses in topics associated with environment and sustainability issues.

Summary of Requirements within the ESS Core Curriculum

<table>
<thead>
<tr>
<th>REQUIRED CATEGORY</th>
<th>COURSE(S) required or to select from in each category</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>How humans obtain knowledge about environment and sustainability</strong></td>
<td>NTRES 1101: Introduction to Environmental Science and Sustainability (F)</td>
</tr>
<tr>
<td><strong>Social Science</strong></td>
<td>NTRES 2201: Society and Natural Resources* (S)</td>
</tr>
<tr>
<td><strong>Biology</strong></td>
<td>BIOE 1610: Ecology and the Environment* (F, S) <strong>or</strong> BIOSM 1610: Ecology and the Marine Environment* (Su) <strong>OR</strong> BIOE 1780: Evolution and Diversity* (F, S) <strong>or</strong> BIOSM 1780: Evolution and Marine Diversity* (Su)</td>
</tr>
<tr>
<td><strong>Note:</strong> BIOSM options are ~2.5 week intensive courses at Shoals Marine Lab that satisfy this requirement. Visit <a href="http://www.sml.cornell.edu">http://www.sml.cornell.edu</a>. Scholarships are available. <strong>Note:</strong> Some concentrations may require more than one biology course. CALS Degree Requirements include a minimum of 6 credits for Intro Life Sciences/Biology.</td>
<td>- AP Biology credits are accepted but do not exempt students from the above courses. Health careers students should consult with their advisor about meeting this requirement. <strong>Visit</strong> <a href="http://www.career.cornell.edu/paths/health/index.cfm">http://www.career.cornell.edu/paths/health/index.cfm</a></td>
</tr>
<tr>
<td><strong>Chemistry/Physics</strong></td>
<td>CHEM 1560: Introduction to General Chemistry* (F, Su) CHEM 2070: General Chemistry 1* (F, Su) AP Chemistry score of 5 EAS 1600: Environmental Physics* (F,S) AP Physics 1 or AP Physics 2 score of 5 AP Physics C: Mechanics score of 5</td>
</tr>
<tr>
<td><strong>Note:</strong> EBAE concentration requires students to complete one physics course and two chemistry courses. <strong>LAWR</strong> concentration requires students to complete at least one physics course and at least one chemistry course.</td>
<td>Health careers students should consult with their advisor about meeting this requirement. <strong>Visit</strong> <a href="http://www.career.cornell.edu/paths/health/index.cfm">http://www.career.cornell.edu/paths/health/index.cfm</a></td>
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</table>

* Course also meets a CALS distribution requirement.
<table>
<thead>
<tr>
<th>REQUIRED CATEGORY</th>
<th>COURSE(S) required or to select from in each category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantitative Proficiency: Statistics</td>
<td>AEM 2100: Introductory Statistics* (F)</td>
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<tr>
<td></td>
<td>BTRY 3010/STSCI 2200: Biological Statistics I (F)</td>
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<tr>
<td></td>
<td>MATH 1710: Statistical Theory and Application in the Real World* (F, S)</td>
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<td></td>
<td>STSCI 2100: Introductory Statistics* (F, S, Su)</td>
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<td></td>
<td>STSCI 2150: Introductory Statistics for Biology* (F, S)</td>
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<td></td>
<td>AP Statistics score of 5</td>
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<td></td>
<td><strong>Note:</strong> Some concentrations may require more than one quantitative course (e.g. Calculus). See Quantitative Proficiency for course suggestions, page 9.</td>
</tr>
<tr>
<td>Humanities</td>
<td>ANTHR/AlIS/BSOC 2420: Nature/Culture: Ethnographic Approaches to Human-Environment Relations (F)</td>
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<td></td>
<td>BSOC 2061/STS 2061/PHIL 2460: Ethics and the Environment* (S)</td>
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<td></td>
<td>HIST 2581: Environmental History (S)</td>
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<td></td>
<td>NTRES 3320: Introduction to Ethics and Environment* (F)</td>
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<tr>
<td>Economics</td>
<td>AEM 1500: An Introduction to the Economics of Environmental and Natural Resources* (S, Su)</td>
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<td></td>
<td>AEM 2500: Environmental and Resource Economics* (F) (prerequisite: ECON 1110)</td>
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<tr>
<td>Field / Engaged Experience</td>
<td>NTRES 2100: Introductory Field Biology (F)</td>
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<td></td>
<td>BIOEE 3611: Field Ecology (F)</td>
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<td></td>
<td>NTRES 2400: Field Methods in Avian Ecology (F, permission of instructor)</td>
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<td></td>
<td>NTRES 3260: Applied Conservation Ecology (S)</td>
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<td></td>
<td><strong>BIOSM—Shoals Marine Laboratory (Summer, off-campus, additional fee)</strong></td>
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<tr>
<td></td>
<td>• BIOSM 3290: Field Animal Behavior</td>
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<td>• BIOSM 3650: Underwater Research</td>
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<td></td>
<td>• BIOSM 3730: Biodiversity and Biology of the Marine Invertebrates</td>
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<tr>
<td></td>
<td>• BIOSM 3740: Field Ornithology</td>
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<tr>
<td>Sustainability Science Colloquium</td>
<td>ESS 2000: Environmental and Sustainability Sciences Colloquium (F)</td>
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<tr>
<td></td>
<td>BEE 2000: Perspectives on the Climate Change Challenge (S)</td>
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<tr>
<td></td>
<td>BEE 2010: Perspectives on the Climate Change Challenge Discussion (S)</td>
</tr>
<tr>
<td>Capstone Course</td>
<td>NTRES 3301: Sustainability Science (F)</td>
</tr>
<tr>
<td></td>
<td>NTRES 4601: Decision Making In Natural Resource Management (S)</td>
</tr>
<tr>
<td>Concentration</td>
<td><strong>Students will choose and declare their concentration by the end of pre-enrollment of their sophomore year.</strong></td>
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<tr>
<td></td>
<td><strong>Concentrations (Acronyms)</strong></td>
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<tr>
<td></td>
<td>Environmental Biology and Applied Ecology (EBAE)</td>
</tr>
<tr>
<td></td>
<td>Environmental Economics (EE)</td>
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<td></td>
<td>Environmental Humanities (EH)</td>
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<tr>
<td></td>
<td>Environmental Policy and Governance (EPG)</td>
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<tr>
<td></td>
<td>Land, Air and Water Resources (LAWR)</td>
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<td></td>
<td>Individual Student-Designed Concentration (ISD)</td>
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AP CREDIT AND S/U GUIDELINES

Using AP credit to fulfill a requirement

AP Credit Guidelines: Students vary in how they choose to apply their AP credits toward their degree requirements. You will need to meet with your faculty advisor to review options given your academic goals. Below is a direct link to AP Guidelines; a link is also available in D.U.S.T.

https://dust.cals.cornell.edu/

Using S/U for requirements within the ESS major

The requirements for the major may be taken S/U provided all other CALS rules are followed and the course offers the S/U option.

The S/U System: http://cals.cornell.edu/academics/advising/faculty-staff/grading/
In addition to the letter-grade system, Cornell provides an S/U system in which S means satisfactory, as defined by performance graded C- or higher and U means unsatisfactory, as defined by performance that would be graded below C-. Grades of S and U are not given grade-point values or taken into account in computing grade-point averages. The purpose of the S/U system is to encourage students to venture into courses outside their comfort zone without risk to their academic record. The various schools and colleges differ in the restrictions they place on the election of S/U grading over letter grading. In those courses where college rules and course procedures allow it, the election is a student option that must be exercised within the first seven weeks of the beginning of the term.
QUANTITATIVE PROFICIENCY

The ESS major has the following learning outcomes related to quantitative proficiency:

- Ability to analyze, interpret, reason, and judge the quality and meaning of biological, ecological, and social-science data using appropriate mathematical, statistical, graphical, and other quantitative and qualitative methods, and to apply these methods to environmental and conservation issues.
- Ability to critically assess the rigor and relevance of data and other forms of evidence used to solve environmental problems, and to identify new and creative solutions.

Skills with quantitative analysis are essential in many careers that address environment and sustainability issues. Students should develop analytical skills and the logical reasoning inherent in quantitative methods. All ESS students are encouraged to take courses emphasizing quantitative analysis to the highest level of their ability.

CALCULUS, including both differentiation and integration, is used in environmental physics, statistics, and economics courses, as well as advanced courses in ecology. Some ESS concentrations require one university-level calculus course.

An AP score of 4 or 5 on the Mathematics BC exam earns 8 credits and may be used to fulfill a calculus requirement. Either score places you out of MATH 1106, MATH 1110, MATH 1120, MATH 1220 and MATH 1910 and allows enrollment in MATH 2210, MATH 2230, MATH 2130 and MATH 2310, as well as MATH 1920. An AP score of 4 or 5 on the Mathematics AB or AB sub-score of the BC exam earns 4 credits and may be used to fulfill a calculus requirement. Either score places you out of MATH 1106 and MATH 1110 and allows enrollment in MATH 1120, MATH 1220, MATH 1910, or MATH 2310. Please check with your advisor for their recommendation after discussing your academic goals.

- Students planning to concentrate in Environmental Economics (EE), Environmental Biology and Applied Ecology (EBAE), or Land, Air and Water Resources (LAWR), or who are planning to take more advanced mathematics beyond calculus, should consider the Math 1110 option. If you do not have a minimum AP calculus score of 4, start with either Math 1106 or Math 1110
  o MATH 1106: Calculus for the Life and Social Sciences (S, 3 credits)
  or
  o MATH 1110: Calculus I (F, S, Su, 4 credits)
  In addition to differentiation and integration, this course includes trigonometry, which has limited use in the environmental sciences.

- If you do have a minimum AP AB or BC calculus score of 4 and would like to focus on the practical application of the subject, consider Math 2310: Linear Algebra with Applications. Students with strong interests in climate or atmospheric dynamics may wish to consider MATH 1920. Both courses provide more advanced skills than are developed in beginning calculus courses:
  o MATH 2130: Calculus III (S, 4 credits)
  o MATH 1920: Calculus for Engineers (F, S, Su; 4 credits)
**STATISTICS** is the most broadly applicable quantitative method for ESS students. One of the following statistics courses is required.

- **MATH 1710**: Statistical Theory and Application in the Real World (F, S, 4 credits)
- **STSCI 2100**: Introductory Statistics (F, W, S, Su, 4 credits)
- **AEM 2100**: Introductory Statistics (F, 4 credits)
  A good choice for those with more social science or policy interests.
- **BTRY 3010/STSCI 2200**: Biological Statistics I (F, 4 credits)
  This course was established for ESS students. If you plan to take an additional statistics course, BTRY 3010 is the first of a two-semester sequence,
- **STSCI 2150** (F, S, 4 credits): Introductory Statistics for Biology
  A good choice for those with biological interests and intending only one statistics course.

**ADDITIONAL COURSES** - Most ESS specializations will benefit from additional experience with statistics (see below for more advanced courses). It is also useful to develop skills in computer programming both to diversify your skill set and for specializations where computer-intensive analyses are common, such as using large databases or ecological modeling. See below some options available for courses emphasizing quantitative proficiency.

**Statistics:**
Recommended for those considering research-based careers or graduate school in the sciences.

- **BTRY 3020/STSCI 3200**: Biological Statistics II (S, 4 credits)
  Prerequisite: Biological Statistics I
- **BTRY 3080/STSCI 3080**: Probability Models and Inference (F, S, 4 credits)
- **BTRY 3100/ILRST 3100/STSCI 3100**: Statistical Sampling (F, 4 credits)
  Prerequisite: two semesters of statistics
- **BTRY 4090/STSCI 4090**: Theory of Statistics (S, 4 credits)
  Prerequisite BTRY 3080 and one statistics course
- **ECON 3110/ILRST 3110/STSCI 3110**: Probability Models and Inference for the Social Sciences (F, 4 credits)

**Courses that develop quantitative skills:**
Recommended for those interested in developing modeling skills or seeking experience in how quantitative analyses are used in the context of specific applications.

- **BIOEE 3620/MATH 3620**: Dynamic Models in Biology (S, 4 credits)
- **BIOMG 4810**: Population Genetics (F, 4 credits)
- **DSOC 4631**: Using Statistics to Explore Social Policy and Development (F, 3 credits)
- **EAS 4830**: Environmental Biophysics (F, alternate years)
- **NTRES 3100**: Applied Population Ecology (F, 3 credits)
- **NTRES 4100**: Advanced Conservation Biology: Concepts and Techniques (F, 4 credits)
- **NTRES 4110**: Quantitative Ecology and Management of Fisheries Resources (S, 4 credits)
- **NTRES 4120**: Wildlife Population Analysis: Techniques and Models (S, 4 credits)
Computer Programming:
Recommended for students who seek basic skills used in developing environmental models, manipulating large data sets and developing some statistical analyses.
• CS 1110: Introduction to Computing Using Python (F, S, Su, 4 credits)
• CS 1112: Introduction to Computing Using MATLAB (F, S, 4 credits)
• EAS 2900: Computer Programming and Meteorology Software (S, 3 credits)

Geographical Information Systems (GIS):
These techniques are important for gathering and analyzing spatial data. Many public and planning agencies use GIS routinely and these skills are applicable in many research contexts.
• CRP 4080: Introduction to Geographic Information Systems (F, S, 4 credits)
• PLSCS 2200: Introduction to Mapping and Spatial Analysis with GIS (F, 3 credits)
• PLSCS 4110/CEE 4110: Applied Remote Sensing and GIS for Resource Inventory and Analysis (F, 3 credits)
• PLSCS 4200: Geographic Information Systems (GIS): Concepts and Application (S, 3 credits)

For additional development of basic mathematical skills:
• MATH 1105: Finite Mathematics for the Life and Social Sciences (F, 3 credits)
• MATH 1120: Calculus II (F, S, 4 credits)
• MATH 1920: Multivariable Calculus for Engineers (F, S, Su, 4 credits)
• MATH 2310: Linear Algebra with Applications (F, S, 3 credits)

Additional guidance in math can be found at:
http://courses.cornell.edu/preview_program.php?catoid=12&poid=3421#courseselectionguidance

First Steps in Mathematics:
Answers to the most frequently asked questions concerning freshman-sophomore mathematics courses can be found here: http://math.cornell.edu/first-steps-math
DESCRIPTION OF ESS CONCENTRATIONS

Environmental Biology and Applied Ecology Concentration (EBAE)
The EBAE concentration provides students with the scientific basis for understanding the sustainability of various ecological systems. Students will learn advanced principles of biology and ecology, and their application to problems of environmental management. Students with interests in many topics will undertake this concentration, for example, wildlife and fisheries management; forest, wetland and aquatic ecology; environmental microbiology; conservation science; endangered and invasive species management; biological and ecological consequences of pollutants in the environment.

Learning Goals: Students in the EBAE concentration will gain an in-depth understanding of the biological and ecological dimensions of environmental and sustainability sciences, and of the methods by which knowledge in this area of scholarship is acquired, analyzed, interpreted, evaluated, and used in natural and human-managed ecosystems. Students who complete the EBAE course of study will be able to apply fundamental current understanding of ecology and environmental biology to complex interdisciplinary environmental issues.

Note: Some courses in the concentration require more than the minimum core curriculum requirements, i.e., biology, math and physics. Always check course prerequisites.

Course Requirements: Ten courses beyond the ESS Core requirements.

1 additional Biology course: Choose both BIOEE 1610 and BIOEE 1780
   BIOEE 1610: Ecology and the Environment* (F, S) [or BIOSM 1610]
   BIOEE 1780: Evolution and Diversity* (F, S) [or BIOSM 1780]

2 Chemistry courses*: Choose Chem 1560 and Chem 1570 OR Chem 2070 and Chem 2080
   * This assumes that EAS 1600: Environmental Physics is taken as the ESS Core requirement
   Chem 1560: Introduction to General Chemistry* (F, Su)
   Chem 1570: Introduction to Organic and Biological Chemistry* (S, Su)

OR
   Chem 2070: General Chemistry I* (F, Su)
   Chem 2080: General Chemistry II* (S, Su)

1 Calculus course: Choose Math 1106 or Math 1110: It is recommended (but not required) that students take a second semester of calculus, Math 1120.
   Math 1106: Calculus for the Life and Social Sciences* (S)
   Math 1110: Calculus 1* (F, S, Su)

1 Quantitative course: For detailed guidance, see Quantitative Proficiency, page 9.

1 Introductory Genetics course: Choose NTRES 2830 or BIOMG 2800 and 2801
   NTRES 2830: DNA, Genes and Genetic Diversity (S)
   BIOMG 2800 and 2801: Genetics and Genomics, lecture and lab (F, S)

1 Advanced Ecology course: Choose BIOEE 3610 or NTRES 3100
   BIOEE 3610: Advanced Ecology (F)
   NTRES 3100: Applied Population Ecology (F)

3 additional courses from EBAE elective lists
   Choose one course from List 1, one course from List 2 and one more course from either list that must be at the 4000 level or above.
# EBAE Elective Lists

## EBAE List 1: Ecosystems – The physical and biological environment

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOE/EAS 3500</td>
<td>Dynamics of Marine Ecosystems in a Changing Ocean (F, alternate years)</td>
</tr>
<tr>
<td>BIOE/EAS 3510</td>
<td>Conservation Oceanography (S, offered in Hawaii)</td>
</tr>
<tr>
<td>BIOE 3610</td>
<td>Advanced Ecology (F)</td>
</tr>
<tr>
<td>BIOE/BIONB/ENTOM 3690</td>
<td>Chemical Ecology (S)</td>
</tr>
<tr>
<td>BIOE 4570</td>
<td>Limnology: Ecology of Lakes (F, alternate years)</td>
</tr>
<tr>
<td>BIOE/EAS 4620</td>
<td>Marine Ecology (F, alternate years)</td>
</tr>
<tr>
<td>BIOE 4690</td>
<td>Food, Agriculture, and Society (F)</td>
</tr>
<tr>
<td>BIOE 4780</td>
<td>Ecosystem Biology (S, alternate years)</td>
</tr>
<tr>
<td>BIOSM 3650</td>
<td>Underwater Research (Su)</td>
</tr>
<tr>
<td>EAS 4830</td>
<td>Environmental Biophysics (F, alternate years)</td>
</tr>
<tr>
<td>EAS/NTRES 3030</td>
<td>Introduction to Biogeochemistry (F)</td>
</tr>
<tr>
<td>LA 3170</td>
<td>Design and Environmental Systems (F)</td>
</tr>
<tr>
<td>NTRES/BIOE 2670</td>
<td>Introduction to Conservation Biology (F)</td>
</tr>
<tr>
<td>NTRES/EAS 3030</td>
<td>Introduction to Biogeochemistry (F)</td>
</tr>
<tr>
<td>NTRES 3220</td>
<td>Global Biodiversity (F)</td>
</tr>
<tr>
<td>NTRES 3240</td>
<td>Sustainable, Ecologically Based Management of Water Resources (S)</td>
</tr>
<tr>
<td>NTRES 3250</td>
<td>Forest Management and Maple Syrup Production (S, alternate years)</td>
</tr>
<tr>
<td>NTRES 4200</td>
<td>Forest Ecology (F, availability may vary)</td>
</tr>
<tr>
<td>NTRES/BIOE 4560</td>
<td>Stream Ecology (F, alternate years)</td>
</tr>
<tr>
<td>PLHRT 3600</td>
<td>Climate Change and the Future of Food (F)</td>
</tr>
<tr>
<td>PLHRT/BIOE 4730</td>
<td>Ecology of Agricultural Systems (F)</td>
</tr>
<tr>
<td>PLSCS 3210</td>
<td>Soil and Crop Management for Sustainability (S)</td>
</tr>
<tr>
<td>PLSCS 4660</td>
<td>Soil Ecology (S)</td>
</tr>
</tbody>
</table>

## EBAE List 2: Organisms – plants, animals, microbes

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOE 2740</td>
<td>The Vertebrates: Comparative Anatomy, Function, and Evolution (S)</td>
</tr>
<tr>
<td>BIOE 3610</td>
<td>Advanced Ecology (F)</td>
</tr>
<tr>
<td>BIOE 3611</td>
<td>Field Ecology (F)</td>
</tr>
<tr>
<td>BIOE/MATH 3620</td>
<td>Dynamic Models in Biology (S, alternate years)</td>
</tr>
<tr>
<td>BIOE 3730</td>
<td>Biodiversity and Biology of the Marine Invertebrates (F, alternate years)</td>
</tr>
<tr>
<td>BIOE/BIONB/PLSCI 4460</td>
<td>Plant Behavior and Biotic Interactions, Lecture (S)</td>
</tr>
<tr>
<td>BIOE 4500/4501</td>
<td>Mammalogy, Lecture and Laboratory (F, alternate years)</td>
</tr>
<tr>
<td>BIOE 4660</td>
<td>Physiological Plant Ecology, Lectures (S, alternate years)</td>
</tr>
<tr>
<td>BIOE 4700/4701</td>
<td>Herpetology, Lectures/Laboratory (S, alternate years)</td>
</tr>
<tr>
<td>BIOE 4750</td>
<td>Ornithology (S, alternate years)</td>
</tr>
<tr>
<td>BIOE 4760</td>
<td>Biology of Fishes (F, alternate years)</td>
</tr>
<tr>
<td>BIOMI 2900</td>
<td>General Microbiology Lectures (F, S, Su)</td>
</tr>
<tr>
<td>BIOMI 3500/EAS 3555</td>
<td>Biological Oceanography and Ocean Biogeochemistry (S)</td>
</tr>
<tr>
<td>BIOMI/PLSCS 3970</td>
<td>Environmental Microbiology: Evolution, Biogeochemistry, Microbial Ecology (F, alternate years)</td>
</tr>
<tr>
<td>BIOMI 4140</td>
<td>Prokaryotic Diversity (S)</td>
</tr>
<tr>
<td>BIOSM 3210</td>
<td>Anatomy and Function of Marine Vertebrates (Su)</td>
</tr>
<tr>
<td>BIOSM 3730</td>
<td>Biodiversity and Biology of Marine Invertebrates (F)</td>
</tr>
<tr>
<td>BIOSM 3740</td>
<td>Field Ornithology (Su)</td>
</tr>
<tr>
<td>BIOSM 3830</td>
<td>Field Marine Invertebrate Biology (Su, availability will vary)</td>
</tr>
<tr>
<td>ENTOM 2120</td>
<td>Insect Biology (F)</td>
</tr>
<tr>
<td>ENTOM/TOX 3070</td>
<td>Pesticides, the Environment and Human Health (F, alternate years)</td>
</tr>
<tr>
<td>ENTOM 3150</td>
<td>Spider Biology (F)</td>
</tr>
<tr>
<td>ENTOM 3630</td>
<td>Bugs in Bugs: The World of Pathogens and Parasites (S, alternate years)</td>
</tr>
<tr>
<td>ENTOM 3440</td>
<td>Insect Conservation Biology (F, alternate years)</td>
</tr>
</tbody>
</table>
Environmental Economics Concentration (EE)

ESS students with a concentration in Environmental Economics will use economic principles to understand the interrelation between society and the environment and study how environmental policies should be structured to address the environmental challenges by understanding behavioral responses of economic agents to these policies.

Learning Goals: Students will learn (1) how and why markets can fail in allocating scarce resources such as the environment, energy, and natural resources; (2) how economic principles can be used to promote environmental protection and the optimal and sustainable use of natural resources; and (3) how policy instruments such as subsidies, taxes and cap-and-trade programs can improve environmental quality by incentivizing economic agents to reduce pollution and develop and adopt clean technologies.

Course Requirements: Seven courses beyond the ESS core requirements.
AEM 2500: Environmental and Resource Economics, to be taken within the core curriculum

Required
MATH 1110: Calculus I (F, S, Su)
ECON 1110: Introductory Microeconomics (F, W, S, Su)
ECON 1120: Introductory Macroeconomics (F, W, S, Su)
ECON 3030: Intermediate Microeconomics (F, S, Su)

Two from the following three courses
AEM 4500: Resource Economics (S)
AEM 4510: Environmental Economics (S)
AEM 4940: Business and Economics of Energy (F)

One from the following data analysis/econometrics courses
AEM 4110: Introduction to Econometrics (F)
ECON 3120: Applied Econometrics (F, S, Su)
ECON 3140: Econometrics (S)
ILRST 2110: Statistical Methods for Social Sciences II (S)
HADM 3740: Fundamentals of Database Mgmt. and Data Analysis (S)
PLSCS 2200: Introduction to Mapping and Spatial Analysis with GIS (F)
STSCI 4060: Python Programming and Its Applications in Statistics (S)
HADM 4010: Data-Driven Analytics (F)

**Environmental Humanities (EH)**

The EH concentration emphasizes the important role the humanities, arts, and social sciences can play not just in producing solutions to environmental problems but in understanding how those problems arose and reframing them to improve environmental outcomes. All humans are storytellers. That includes environmental scientists, whose stories are grounded in analytical approaches. The environmental humanities explore how people in diverse cultures construct narratives about the environment and its relation to humans and how those narratives inform their actions in the world. Courses exploring subjects such as literature, art, ethics and culture can help students appreciate the underlying values and belief systems that drive much of human behavior. The Environmental Humanities concentration is designed for students drawn toward disciplines such as history, ethics, aesthetics, literature, sociology, and anthropology who wonder why so many brilliant technical solutions to environmental problems have foundered in particular social, cultural, and political contexts.

**Learning Goals:** The students in the EH concentration will gain an in-depth understanding of the social, cultural, personal, political, and psychological dimensions of humans’ relationship with the environment, and of the methods by which knowledge in this area of scholarship is acquired, interpreted, and evaluated. Students who complete the EH course of study will be able to apply frameworks of understanding from the environmental humanities to complex interdisciplinary environmental issues.

**Course Requirements** will be developed during the 2018-2019 academic year as this concentration is implemented within the cross-college ESS major. Academic advisors can assist students in selecting courses, including the following courses that are currently available:

- ANTHR 2420: Nature/Culture: Ethnographic Approaches to Human-Environment Relations (F)
- ANTHR 4025: Deranged Authority: Culture, Power, and Climate Change (F)
- ANTHR 4101: The Entangled Lives of Humans and Animals (F)
- ANTHR 4390: Primate Conservation: Cross-cultural Perspectives on Wilderness Preservation and Animal-Human (F)
- ANTHR 4801: Water Societies: Ecology, Technology, History (F)
- ARTH 2255: Ecocriticism & Visual Culture (F)
- ASIAN 1100: FWS: Religion and Ecological Sustainability (S)
- HIST 2581: Environmental History (S)
- HIST 2630: Histories of the Apocalypse: From Nostradamus to Nuclear Winter (F)
- COML 1107: FWS: Writing the Environment (F)
- COML 2xxx (new course): Literature and the Elements of Nature (S)
- ENGL 1168: FWS: Communicating Climate Change (F)
- ENGL 3675: The Environmental Imagination in American Literature (S)
- NTRES 3320: Introduction to Ethics and Environment (F)
- NTRES 3330: Ways of Knowing: Indigenous and Place-Based Ecological Knowledge (F)
- NTRES 2320: Nature and Culture (S)
- STS 2061: Ethics and the Environment (S)
Environmental Policy and Governance Concentration (EPG)

ESS students with a concentration in Environmental Policy and Governance will study the design, construction, implementation and evaluation of environmental policy and management. The course requirements include a balance of disciplinary foundational courses in the environmental social sciences, and opportunities for students to pursue their passion.

Learning Goals: Students will gain an understanding of the mechanisms, strategies and constraints to securing social and ecological well-being through conservation of ecosystems at scales from local to global. Building on students’ knowledge of natural resources, social and environmental sciences, and strengthening their knowledge in the social sciences, the concentration emphasizes critical reasoning, communication skills and capacity to integrate narrative, statistical and technical information. These skills will allow students to work with government agencies, commercial firms and civil society organizations and to address cross-cutting contemporary debates regarding conservation and the role of environment in politics, economic development and security.

Course Requirements: Seven courses beyond the ESS core requirements.

Required
CRP/NTRES 4440: Resource Management and Environmental Law (S)
DSOC/SOC 3240, STS 3241: Environmental Sociology (S)
NTRES/BSOC/DSOC/STS 3311: Environmental Governance (F)
NTRES 4300: Environmental Policy Processes (S)

1 additional Humanities course
Students should select one course not taken for the core requirements.

ANTHR/AIIS/BSOC 2420: Nature/Culture: Ethnographic Approaches to Human-Environment Relations (F)
BSOC 2061/STS 2061/PHIL 2460: Ethics and the Environment* (S)
HIST 2581: Environmental History (S)
NTRES 3320: Introduction to Ethics and Environment* (F)

1 Methods/Tools course
DSOC 3130: Social Indicators and introduction to Social Science Research (F)
DSOC 3140: Spatial thinking, GIS and related methods (F)
CRP 4080: Introduction to Geographic Information Systems (GIS) (F, S)
NTRES 4600: Planning for Environmental Conservation and Sustainability* (F)
PLSCS 2200: Introduction to Mapping and Spatial Analysis with GIS (F)
PLSCS 4200: Geographic Information Systems (GIS): Concepts and Application (S)

1 additional Environmental Social Sciences and Humanities course: Choose from list below.

Environmental Social Sciences and Humanities
AEM 2000 Contemporary Controversies in the Global Economy (F, S)
AEM 3380 Social Entrepreneurs, Innovators, and Problem Solvers (F, Su)
AEM/NS 4450* Toward a Sustainable Global Food System: Food Policy for Developing Countries* (SBA) (F)
AEM 4500* Resource Economics* (SBA) (S)
AEM 4510* Environmental Economics* (SBA) (S)
AIIS/ANTHR 3422* Culture, Politics, and Environment in the Circumpolar North* (CA, D) (S)
AMST/BSOC/HIST 2581* Environmental History* (HA) (S)
ANTHR/AIIS/BSOC 2420 Nature/Culture: The Politics of Human-Environment Relations
ANTHR 4410* Indigenous Peoples, Ecological Sciences, and Environmentalism* (CA) (F)
AMST/BSOC/HIST/STS 3181* Living in an Uncertain World: Science, Technology, and Risk* (HA) (F or S)
AMST/BSOC/HIST/STS 4131* Comparative Environmental History* (HA) (F or S)
COMM 2850/STS 2851* Communication, Environment, Science and Health (SBA) (S)
COMM 3080 Capstone Course in Environmental and Sustainability Communication (S)
COMM 3210* Communication and the Environment* (SBA) (F) (offered odd years)
COMM 4560* Community Involvement in Decision Making* (SBA) (F) (offered even years)
COMM/STS 4660* Public Communication of Science and Technology* (SBA) (S)
COMM 4860* Risk Communication* (SBA) (F)
CRP 3840 Green Cities (F)
CRP 4080 Introduction to Geographic Information Systems (GIS) (F, S)
CRP 5080 Introduction to Geographic Information Systems (GIS) for Planners (F, S)
CRP 5460 Introduction to Community and Environment Dispute Resolution (F, S)
DEA/PSYCH/COGSCI/1500* Introduction to Environmental Psychology* (D) (S, Su)
DEA 4220/ARCH 4601 Ecological Literacy and Design (F)
DEA 6610 Environments and Health (S, alternate years)
DSOC 2010/SOC 2202* Population Dynamics* (SBA) (F)
DSOC 2030 Global Garbage (F)
DSOC 2050* International Development* (D, HA, SBA) (S)
DSOC 3010* Theories of Society and Development* (KCM, SBA) (F)
DSOC 3140 Spatial Thinking, GIS, and Related Methods (F)
DSOC 3200 Rethinking Global Development: New Frameworks for Understanding Poverty, Inequality and Growth in 21C (F, next offered 2019-2020)
DSOC/SOC/STS 3240* Environmental Sociology* (SBA) (S)
DSOC 3400 Agriculture, Food, Sustainability and Social Justice (D, KCM, SBA) (F)
DSOC 4380 Population and Development (S)
IARD/DSOC 1100 Perspectives on International Agriculture and Rural Development (F)
NTRES 2320* Nature and Culture* (CA, HA) (S)
NTRES/BSOC/DSOC/STS 3311* Environmental Governance* (SBA) (F)
NTRES/AIIS/AMST 3330* Ways of Knowing: Indigenous and Local Ecological Knowledge* (CA, D, KCM, SBA) (F)
NTRES 4300 Environmental Policy Processes (S)
NTRES 4320* Human Dimensions of Coupled Social-Ecological Systems* (SBA) (S, alternate years)
NTRES 4330* Applied Environmental Philosophy* (KCM) (S, alternate years)
NTRES/CRP 4440 Resource Management and Environmental Law (S)
NTRES 4600* Planning for Environmental Conservation and Sustainability* (SBA) (F)
NTRES/FDSC/IARD 4800 Global Seminar: Building Sustainable Environments and Secure Food Systems for Modern World (S)
PLHRT 3600 Climate Change and the Future of Food (F)

*Course meets a CALS distribution requirement for CA, SBA, KCM, HA, or D category.
Land, Air and Water Resources (LAWR)

Studies in Land, Air and Water Resources provide students with a foundation in physical and chemical processes and how these interact in ecosystems to control the transport and fate of naturally-occurring elements and pollutants in the environment. The concentration emphasizes viewing ecosystems as integrated systems by requiring at least one course in ecosystem ecology and one course in environmental information systems. Students with interests in toxicology, hydrology, climate change, soil and air pollution, for example, are encouraged to choose the LAWR concentration.

**Learning Goals:** The overarching goals are to provide students with in-depth understanding of the chemical, physical, geological, and biological processes that govern the composition of natural and managed ecosystems, and with experience in the methods used to obtain, analyze, interpret, and evaluate biogeochemical information. Students who complete the LAWR concentration will have knowledge sufficient to describe cycles of biologically and geochemically important chemical elements within and through ecosystems.

**Note:** Some of the courses in this concentration require more than the minimum math and physics requirements for the ESS major. We recommend that students in the LAWR concentration take two semesters of calculus and two semesters of physics.

**Course Requirements:** Nine courses beyond the ESS core requirements.

Core Curriculum required choice: Physics

Core Curriculum required choice: BIOEE 1610: Ecology and the Environment

1 additional Biological Sciences course:
Choose one biological sciences course for the Life Sciences

1 additional Chemistry course: Choose a physics course (from Core Curriculum) and
Choose one additional chemistry course
   Chem 1560: Introduction to General Chemistry* (F, Su)
   Chem 2070: General Chemistry I* (F, Su)
   (2070 preferred; often a prerequisite for other LAWR courses)

1 additional Quantitative course: Choose Math 1106 or Math 1110
   Math 1106: Calculus for the Life and Social Sciences* (S)
   Math 1110: Calculus 1* (F, S, Su)

1 Biogeochemistry course: Choose PLSCS 3650 or EAS/NTRES 3030
   PLSCS 3650: Environmental Chemistry: Soil, Air and Water (S)
   EAS/NTRES 3030: Introduction to Biogeochemistry (F)

5 additional courses from LAWR elective lists
Choose 1 course from List 1, 2 and 3 and then two more courses from any list.
   LAWR List 1: Chemical/Physical Science
   LAWR List 2: Environmental Informatics
   LAWR List 3: Integrated Ecosystems/Ecology
   Additional elective from LAWR List 1, 2 or 3
   Additional elective from LAWR List 1, 2 or 3

Other Cornell University courses similar in content and level (3000-level or above), but not on these lists, may be chosen in consultation with your advisor.
# LAWR Elective List

## LAWR List 1: Chemical/Physical environmental science

**Water management/hydrology**
- BEE 3500 Biological and Bioenvironmental Transport Processes (F, Su)
- BEE 3710 Physical Hydrology for Ecosystems (S, alternate years)
- BEE 4270 Water Measurement and Analysis Methods (F)
- BEE/EAS 4710 Introduction to Groundwater (S)
- CEE 3310 Fluid Mechanics (F)
- CEE 4320 Hydrology (S)
- EAS 3530 Physical Oceanography (F)
- EAS/BIOEE 3500 Dynamics of Marine Ecosystems (F)

**Atmosphere/climate**
- BEE/EAS 4800 Our Changing Atmosphere: Global Change and Atmospheric Chemistry (F)
- EAS 1310 Basic Principles of Meteorology (F)
- EAS 2680 Climate and Global Warming (S)
- EAS 3050 Climate Dynamics (F)
- EAS 3340 Microclimatology (availability will vary)
- EAS 3420 Atmospheric Dynamics (S)

**Terrestrial/soil science/geology**
- EAS 2250 The Earth System (S)
- EAS 3010 Evolution of the Earth System (F)
- EAS/NTRES 3030 Introduction to Biogeochemistry (F)
- EAS/PLSCS 4830 Environmental Biophysics (F, alternate years)
- PLSCS 2600 Soil Science (F)
- PLSCS 3210 Soil and Crop Management for Sustainability (S)
- PLSCS 3630 Soil Genesis, Classification, and Survey (F)
- PLSCS 3650 Environmental Chemistry: Soil, Air, and Water

## LAWR List 2: Environmental informatics

- CEE/PLSCS 4110 Applied Remote Sensing and GIS for Resource Inventory and Analysis (F)
- CRP 4080 Introduction to GIS (F, S)
- EAS 2900 Computer Programming and Meteorology Software (S)
- PLSCS 2200 Introduction to Mapping and Spatial Analysis with GIS (F)
- PLSCS 4200 Geographic Information Systems (S)

## LAWR List 3: Integrated ecosystems / ecology

- BIOEE 4570 Limnology: Ecology of Lakes, Lectures (S)
- BIOEE/EAS 4620 Marine Ecosystem Sustainability (F)
- BIOEE/PLHRT 4730 Ecology of Agricultural Systems (F)
- BIOEE 4780 Ecosystem Biology (S)
- NTRES 3220 Global Biodiversity (F)
- NTRES 4200 Forest Ecology, Lectures (F)
- NTRES/BIOEE 4560 Stream Ecology (F, alternate years)
- PLHRT/PLSCS 4660 Soil Ecology (S)
Individual Student-Designed Concentration (ISD)
The broad, interdisciplinary nature of environment and sustainability topics means that the number of potential combinations of relevant disciplines and courses is large. The ISD concentration provides students an opportunity to work closely with an advisor to imagine and create a unique combination of courses to meet their own personal interests and explore domains beyond the specified ESS concentrations. It allows students to pursue greater depth in a specific area of environment and sustainability that is of particular personal interest, or design a distinct approach to understanding and engaging in (re)structuring the interactions between society and environment. Both of these approaches emphasize developing an ability to think carefully about the many ways in which humans interact with their environment.

Learning Goals: Each student should work with their faculty advisor to design a cohesive sequence of eight upper-division courses that constitutes a theme relevant to ESS, as well as to prepare a two-page (single-spaced) rationale for their theme and choice of courses. These eight courses should ensure development of specific competencies linked to personal and professional ambitions of the individual student.

Course Requirements: Eight courses beyond the ESS core requirements.
- No specific courses are required but at least six of the eight courses in the concentration must be 3000-level courses.
- All courses must be at least three credits.
- Independent study courses, internship credits, and research credits are not eligible for the ISD concentration.
- Students interested in designing an individual concentration must complete an application before beginning the proposed courses in their theme. In addition, the rationale and list of courses selected should be completed prior to spring pre-enrollment (for the following fall semester) of their sophomore year. An electronic copy of the requisite form is available by contacting Suzanne Wapner, sw38@cornell.edu.


Concentration (Acronyms)
- Environmental Biology and Applied Ecology (EBAE)
- Environmental Economics (EE)
- Environmental Humanities (EH)
- Environmental Policy and Governance (EPG)
- Land, Air, and Water Resources (LAWR)
- Individual Student Designed Concentration (ISD)
INTEGRATIVE EDUCATION: Knowledge Beyond the Classroom

The ESS curriculum aims to advance an interdisciplinary and flexible approach to education. Beyond the depth and breadth represented in core courses and concentrations, students are encouraged to engage in experiential learning, ranging from study in other nations to service learning in community settings to independent research. Credit for experiential learning can be earned by making arrangements with your advisor or another mentor (e.g., internship, research credits or independent study), or you may choose courses emphasizing experiential learning or integrative synthesis. These courses/experiences help integrate your classroom experiences and advance your professional development.

https://experience.cornell.edu/: Find your opportunity!

Engaged Cornell (https://engaged.cornell.edu/) is the center of Cornell efforts to provide opportunities for faculty, staff and students to partner with community members to address global issues. These collaborative relationships at home and throughout the world are augmented by course offerings in international contexts and public service engagement. Many of these courses incorporate integrative and interdisciplinary approaches that address environmental and sustainability issues. The ESS Advising Office (117 Kennedy) will make students aware of these courses as they become available.

Semesters away from campus: Students may want to consider semester-long intensive programs focused on field studies exploring environment and sustainability issues. The Nilgiris Field Learning Center (NFLC - http://blogs.cornell.edu/nfcl/) is a spring semester, 15 Cornell credit, community-engaged research and education program in South India focused around questions of sustainability. The Semester in Environmental Science at the Marine Biological Laboratories in Woods Hole, MA offers a set of biogeochemistry courses focused on climate change and nutrient runoff issues (http://www.mbl.edu/ses/). Marine biology and policy are represented more broadly among SEA Semester programs, also based in Woods Hole (http://www.sea.edu/). SEA semesters start with integrative coursework in Woods Hole, followed by weeks of experiential learning while sailing a tall ship from a port elsewhere in the world. Cornell in Washington (https://www.ciw.cornell.edu/) offers classes and lodging in a Cornell-owned building in Washington D.C., along with "real world" experience working in a public agency, a private firm, a think tank, a non-profit or another organization. All of these semester-long programs require that students apply a semester in advance, so plan ahead.

Internships: Many ESS students pursue internships as a component of their overall learning experience. See page 38 for examples of how recent graduates have integrated internships with other learning experiences. Internships link coursework with practical experiences working with agencies, NGOs, businesses and other organizations. Internships often help students pursue academic and career options after graduating from Cornell.

Many internship opportunities encompass the breadth of disciplines represented in ESS concentrations. Students are also encouraged to develop an internship opportunity targeted to their unique interests and capacities. An ideal internship should support interactions and professional engagement with potential colleagues in work settings. The internship ideally would also involve elements of creative problem solving, acquisition of technical knowledge and skills, professional networking, and self-discovery. Interested students should review the internship guidelines at: https://cals.cornell.edu/academics/student-research/internship. For Internship, Externship, summer or full time job information see https://cals.cornell.edu/academics/advising/career/finding-internship-job.
**Research Honors:** Many ESS students choose to pursue honors research under the guidance of a faculty member. This choice for independent work is particularly important to students intending to pursue an advanced graduate or professional degree. To receive **Distinction in Research** on the CALS diploma, students are required to write a thesis based on original, independent research. Students learn how to design and carry out research under the direct supervision and guidance of a faculty member (thesis advisor) who is associated with the ESS program. Students can work within the ESS Honors program (see below or go to [https://cals.cornell.edu/academics/student-research/honors/environmental-sustainability-sciences](https://cals.cornell.edu/academics/student-research/honors/environmental-sustainability-sciences)) or a parallel program associated with the faculty member's department in any of the CALS Research Honors programs (https://cals.cornell.edu/academics/student-research/honors/). Helpful tips for identifying a research topic, conferring with a faculty member, and finding funding can be found at [http://cals.cornell.edu/academics/student-research/undergraduate](http://cals.cornell.edu/academics/student-research/undergraduate). Students who successfully complete all of their research honor requirements will graduate with distinction in research.

**Overview of the Honors Program in Environmental and Sustainability Sciences**

Faculty director: T. J. Fahey

The research honors program in environmental and sustainability sciences involves original, independent research that generates novel findings. Students learn how to design and carry out research under the direct supervision and guidance of a faculty member or research associate (thesis advisor). Most students in the program engage in research for multiple years to learn the iterative nature of research. Students should meet on a regular basis with their thesis advisor who guides and approves the thesis work. The research findings are presented in a written thesis. Although the format is not prescribed, the thesis usually consists of a short introduction, relevant materials and methods, a concise presentation of the meaningful data, a discussion, and the student's interpretation of the conclusions. Students also will present the findings of their research, either orally or via a poster, at a symposium in late May.

**ESS Research Honors students should adhere to the following schedule.**

**Junior Year**

- Identify a thesis advisor and research topic. Many students start collecting data for their Senior Thesis during the summer before their senior year.
- File an informal application with the faculty director. The application includes
  1) a short description of the research and
  2) advisor information (name, department).

**Senior Year**

- Sixth week of fall semester: Submit formal application [http://cals.cornell.edu/academics/student-research/honors/](http://cals.cornell.edu/academics/student-research/honors/) to faculty director via email.
- April (mid): Submit one electronic copy of the thesis to the thesis advisor and the faculty director. The faculty director will arrange for a review of the thesis by a faculty reader.
- May (~first week): Pick up faculty reader comments from the faculty director.
- Friday before Graduation: Participate in and present the findings of research, either orally or via a poster, in a symposium for parents, faculty, and peers.
- Students may volunteer to publish their original honors research at eCommons Cornell University Library, as long as doing so does not interfere with other plans, such as publishing in a professional journal. Additionally, in recognition of student honors research, CALS prints a booklet of honors theses abstracts ([CALS Research Honors Abstracts: http://cals.cornell.edu/academics/student-research/honors/abstract-booklets/](http://cals.cornell.edu/academics/student-research/honors/abstract-booklets/)) each year.
YOUR RESPONSIBILITY

Ultimately, you are responsible for your education. Students are expected to make regular progress toward meeting the ESS curriculum core requirements, as well as requirements of their specific concentration.

We recommend tracking your progress using the ESS requirement checklist.

Your concentration choice must be declared no later than spring pre-enrollment of your sophomore year. **Note:** additional information is required of students opting to design their own concentration.

If a student does not complete the requirements for the ESS major, they will graduate with a major in Interdisciplinary Studies -- [http://cals.cornell.edu/academics/departments-majors/interdisciplinary-studies](http://cals.cornell.edu/academics/departments-majors/interdisciplinary-studies)

HELPFUL LINKS

**Academic Calendar:** [http://www.cornell.edu/academics/calendar/](http://www.cornell.edu/academics/calendar/)

**CALS Registrar Website:** [http://www.cals.cornell.edu/cals/current/registrar/index.cfm](http://www.cals.cornell.edu/cals/current/registrar/index.cfm) -- This website allows you to access CALS graduation requirements, obtain verification of full-time status for insurance purposes, and obtain a Cornell transcript. Here you also will find current offering of courses, classes and exams, as well as the academic calendar.

**Class Roster:** [https://classes.cornell.edu/browse/roster/FA18](https://classes.cornell.edu/browse/roster/FA18) -- The Class Roster is the schedule of classes offered in a particular term. In addition to class enrollment information, the Roster displays course details (such as descriptions, prerequisites, and breadth and distribution codes) from the Courses of Study (COS). When the room location for a course is available, it is added to the roster (usually just before the start of the semester).

**Cornell Events Calendar:** [http://events.cornell.edu/](http://events.cornell.edu/)

**Courses of Study (COS):** [http://courses.cornell.edu/](http://courses.cornell.edu/) -- The online COS provides a full listing and descriptions of the University's course offerings; in addition, you can find the College's distribution requirements, graduation requirements, and explanations of the letter codes used to identify courses that meet Social Science and Humanities requirements (e.g., HA, CA, SBA) and the Diversity requirement (D).

**D.U.S.T.:** [https://dust.cals.cornell.edu](https://dust.cals.cornell.edu) -- The D.U.S.T. (Distributed Undergraduate Student Tracking) website was created by the CALS Office of Academic Programs, and is accessible by CALS students, faculty advisors and selected departmental staff. With the D.U.S.T. website, you can view information about class enrollment (current and pre-enrollment) and your transcript, search for courses that fulfill degree requirements, track student progress towards satisfying College degree requirements, and declare your concentration.

**Scheduler:** [https://classes.cornell.edu/scheduler/roster/FA18](https://classes.cornell.edu/scheduler/roster/FA18) -- Need help mapping out your schedule and to figure out if courses overlap? Check out the tool called Scheduler. Go to the Class Roster, click on Scheduler on the right and enter classes you are interested to take.
THE ROLE OF YOUR ADVISOR

Each student in Environmental and Sustainability Sciences (ESS) is assigned a faculty advisor based in part on your statement of interest about studies in environmental science and in part on the availability of faculty. Faculty advisors in ESS come from many different departments that contribute to the curriculum. Your advisor plays several roles: guiding you through the requirements of the ESS curriculum and the College distribution requirements; suggesting courses to help clarify and meet your particular educational interests and career goals; and serving as a source of information for opportunities and services available to you through the College and University (e.g., study abroad, internships, career counseling, health and psychological services). If you make the effort to get to know your advisor, she or he also may serve as a reference for you for internships, jobs, or graduate school. Your advisor also can help you choose another major if you decide that your interests lie elsewhere.

Making the Most of Your Academic Advisor

Your advisor is here to help -- take advantage of that resource! You can make the most of your relationship with your advisor by considering a few tips:

- **Contact your advisor throughout the year**, not just at course enrollment times. Let your advisor know if something particularly interesting or exciting has happened in your life, or if you have questions or concerns your advisor may be able to help with. Let your advisor know what you do outside of your classes -- advisors receive grade reports, but otherwise do not hear about your other interests unless you talk with them.

- Ask your advisor what would be the best way to contact him or her.

- Ask your advisor if he or she designates certain office hours each week for drop-in visits, uses an open-door policy, or prefers that you e-mail or call ahead to make an appointment.

- Always come prepared to meetings with your advisor. If the agenda includes discussing course enrollment for the next semester, bring a completed copy of the curriculum requirement worksheet indicating which requirements you have already met, and bring a tentative plan for courses for the next semester. It’s okay to include a list of several courses you are considering and want to discuss before making final selections.

- With your advisor, plan with the "whole picture" in mind -- consider how courses and activities (e.g., internships, travel abroad) might line up over your entire time at Cornell, not just one semester at a time. Some courses are offered in alternate years; some programs have specific application deadlines. Planning ahead, with your advisor, will help ensure you minimize any unforeseen problems you could encounter.

- Submit forms requiring your advisor’s signature well ahead of the due date. Don’t leave things until the last minute; your advisor may be busy teaching, doing research in the field, or travelling for a few days to a conference.

- Use your advisor’s knowledge about the environmental science professions to help you think more about your career options. Don’t limit your advising meetings to talking about course enrollment. Share your career aspirations with your advisor and ask for suggestions.

- If you develop career interests somewhat different from your advisor, you can still maintain that advisor for general advice in the major. Faculty members are usually willing to meet with students who are not their advisees to offer advice in specific areas of expertise.

- In some cases it turns out that an initial advisor is not the best match for a student. You can identify a potential new advisor by speaking with other students to learn more about other faculty, meeting with faculty you know to learn more about their interests and their ability to take on a new advisee, or by asking for suggestions from program staff in 117 Kennedy Hall. It is easy to change advisors, so please don’t hesitate to ask if you would feel more comfortable with a different advisor.
# Academic Advisors
## Environmental and Sustainability Sciences (ESS) 2018 – 2019

<table>
<thead>
<tr>
<th>Name</th>
<th>Department Affiliation</th>
<th>Contact Info</th>
<th>Research Interests and Courses Taught</th>
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<tbody>
<tr>
<td><strong>Anurag Agrawal</strong></td>
<td>Ecology &amp; Evolutionary Biology</td>
<td>425 Corson Hall</td>
<td>Community ecology of plants and insects, impacts of additions and deletions of species for community and ecosystem processes, conservation of iconic organisms e.g. monarch butterfly, Interdisciplinarity and sustainability science</td>
</tr>
<tr>
<td><strong>Professor</strong></td>
<td></td>
<td><a href="mailto:AA337@cornell.edu">AA337@cornell.edu</a></td>
<td>BIOEE 1610: Intro Biology: Ecology &amp; the Environment</td>
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<tr>
<td></td>
<td></td>
<td>607-254-4255</td>
<td>BIOEE 3611: Field Ecology</td>
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<td>BIOEE 3690: Chemical Ecology</td>
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<td></td>
<td>Concentration: EBAE</td>
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<tr>
<td><strong>Shorna B. Allred</strong></td>
<td>Natural Resources</td>
<td>102 Fernow Hall</td>
<td>Human dimensions of natural resource management with emphasis on forest and water resources and conservation related attitudes and behavior.</td>
</tr>
<tr>
<td><strong>Associate Professor</strong></td>
<td></td>
<td>105 Alice Cook House</td>
<td>NTRES 4000: Global Citizenship and Sustainability</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:SRB237@cornell.edu">SRB237@cornell.edu</a></td>
<td>NTRES 4820: Agents of Change: Community Organizing for the Public Good</td>
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<tr>
<td></td>
<td></td>
<td>607-255-2149</td>
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<tr>
<td><strong>C. Lindsay Anderson</strong></td>
<td>Biological &amp; Environmental</td>
<td>316 Riley-Robb Hall</td>
<td>Renewable energy integration, sustainable electric power systems, optimization under uncertainty (to support energy decisions)</td>
</tr>
<tr>
<td><strong>Associate Professor</strong></td>
<td>Engineering</td>
<td><a href="mailto:CLA28@cornell.edu">CLA28@cornell.edu</a></td>
<td>BEE 4750: Environmental Systems Analysis</td>
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<tr>
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<td>BEE 4880/6880: Applied Simulation and Optimization for Renewable Energy Systems</td>
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<tr>
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<td>607-255-4533</td>
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<tr>
<td><strong>Anindita Banerjee</strong></td>
<td>Comparative Literature</td>
<td>216 Klarman Hall</td>
<td>Environmental futures in global comparative contexts; Energy</td>
</tr>
<tr>
<td><strong>Associate Professor</strong></td>
<td></td>
<td><a href="mailto:AB425@cornell.edu">AB425@cornell.edu</a></td>
<td>COML 1108: FWS-Writing the Environment</td>
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<tr>
<td></td>
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<td>607-220-3421</td>
<td>COML 6902: Environmental Humanities – Theories and Methods</td>
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<td>Concentration: EH</td>
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<tr>
<td><strong>Christopher B. Barrett</strong></td>
<td>Applied Economics &amp; Management</td>
<td>340D Warren Hall</td>
<td>Interactions between poverty reduction and environmental management in rural areas of developing countries, with an emphasis on modeling and policy related to coupled human and natural systems in the low-income tropics.</td>
</tr>
<tr>
<td><strong>Professor</strong></td>
<td>Department of Economics</td>
<td><a href="mailto:CBB2@cornell.edu">CBB2@cornell.edu</a></td>
<td>AEM 2000: Contemporary Controversies in the Global Economy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>607-255-4489</td>
<td>Concentration: EE, EPG</td>
</tr>
<tr>
<td><strong>Rachel Bezner Kerr</strong></td>
<td>Development Sociology</td>
<td>262 Warren Hall</td>
<td>Sustainable agriculture, food security, health, nutrition and social inequalities, with a primary focus in southern Africa.</td>
</tr>
<tr>
<td><strong>Associate Professor</strong></td>
<td></td>
<td><a href="mailto:RbeznerKerr@cornell.edu">RbeznerKerr@cornell.edu</a></td>
<td>DSOC 3400: Agriculture, Food, Sustainability and Social Justice</td>
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<tr>
<td></td>
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<td>607-255-3213</td>
<td>DSOC 7500: Food, Ecology and Agrarian Change</td>
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<td>NTRES 3301: Sustainability Science</td>
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<td>Concentration: EBAE, EPG</td>
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<tr>
<td>Name</td>
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<tr>
<td>Bernd Blossey</td>
<td>Natural Resources</td>
<td>206 Fernow Hall</td>
<td>Evaluate effects of invasive plants, invasive earthworms and native deer on native species and food webs using a conservation biology framework. His emphasis is not only on discovery of impacts, but also development of appropriate management techniques, including biological control using insect herbivores. Concentration: EBAE</td>
</tr>
<tr>
<td>David Bonter</td>
<td>Lab of Ornithology</td>
<td>224 Lab of Ornithology</td>
<td>Foraging and migration ecology and large-scale (continental) research in the distribution and abundance of species using data generated by citizen scientists. Interested in social science questions related to why members of the public are motivated to engage in scientific research. NTRES 2400: Field Methods in Avian Ecology Concentration: EBAE</td>
</tr>
<tr>
<td>Elisha Cohn</td>
<td>English</td>
<td>171 Goldwin Smith</td>
<td>Theories of the novel and lyric, ecocriticism, animal studies ENGL 168: FWS-Thinking with Animals ENGL 6755: Critical Ecologies Concentration: EH</td>
</tr>
<tr>
<td>Name</td>
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<tr>
<td><strong>Art DeGaetano</strong></td>
<td>Earth &amp; Atmospheric Sciences</td>
<td>1119 Bradfield Hall</td>
<td>Climate variability, climate data quality, applications of climate information</td>
</tr>
<tr>
<td><strong>Antonio DiTommaso</strong></td>
<td>Soil &amp; Crop Sciences</td>
<td>235 Emerson Hall</td>
<td>Interested in the ecology and management of weedy species in natural areas and croplands. Ecology of invasive plant species and impact on the environment.</td>
</tr>
<tr>
<td><strong>Laurie Drinkwater</strong></td>
<td>Horticulture</td>
<td>156 Plant Science</td>
<td>Biogeochemical processes in agricultural systems, emphasizing mechanisms that control soil organic matter dynamics, C and N cycling, and the interactions between plants-microbes that drive these processes. Teaching/mentoring goal: help students to become scientists who are equipped to address challenges we face in agriculture and environmental management.</td>
</tr>
<tr>
<td><strong>John (Jack) Elliott</strong></td>
<td>Design &amp; Environmental Analysis</td>
<td>4235 MVR Hall</td>
<td>Regenerative design interventions in the built environment, specifically through materiality (embodied energy, LCA, carbon-neutrality, design for disassembly) and creative scholarship (aesthetics, sculpture).</td>
</tr>
<tr>
<td><strong>Stephen P. Ellner</strong></td>
<td>Ecology &amp; Evolutionary Biology</td>
<td>E339 Corson Hall</td>
<td>Modeler and theoretical ecologist; quantitative ecology</td>
</tr>
<tr>
<td><strong>Gary W. Evans</strong></td>
<td>Depts. of Design &amp; Environmental Analysis and Human Development</td>
<td>E3415 Martha Van</td>
<td>Environmental and developmental psychologist interested in how the physical environment (e.g. noise, housing, crowding) affects human development. Much of his work focuses on the environment of childhood poverty.</td>
</tr>
<tr>
<td><strong>Timothy Fahey</strong></td>
<td>Natural Resources</td>
<td>G16 Fernow Hall</td>
<td>Dynamics of forest ecosystems</td>
</tr>
</tbody>
</table>

**Department Affiliation**

- Earth & Atmospheric Sciences
- Soil & Crop Sciences
- Horticulture
- Design & Environmental Analysis
- Ecology & Evolutionary Biology
- Depts. of Design & Environmental Analysis and Human Development
- Natural Resources
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<tbody>
<tr>
<td>Alexander S. Flecker</td>
<td>Ecology &amp; Evolutionary Biology</td>
<td>E211 Corson Hall <a href="mailto:ASF3@cornell.edu">ASF3@cornell.edu</a> 607-254-4263</td>
<td>Freshwater ecology and conservation; Role of biodiversity in shaping riverine ecosystems; Vulnerability of tropical and temperate ecosystems to climate change; Ecosystem consequences of invasive species; Human impacts on running waters and their influence on ecosystem services. BIOEE 1610: Ecology and the Environment BIOEE 4560: Stream Ecology</td>
</tr>
<tr>
<td>Todd Gerarden</td>
<td>Applied Economics &amp; Management</td>
<td>466 Warren Hall <a href="mailto:gerarden@cornell.edu">gerarden@cornell.edu</a></td>
<td>Environmental and energy economics, Empirical industrial organization AEM 4940: Business and Economics of Energy AEM 7510 Environmental Economics</td>
</tr>
<tr>
<td>Marc Goebel</td>
<td>Natural Resources</td>
<td>G11 Fernow Hall <a href="mailto:MG567@cornell.edu">MG567@cornell.edu</a></td>
<td>Forest ecology, plant and soil interactions, soil carbon and nutrient cycling, impacts of environmental change on belowground plant dynamics NTRES 2100: Introduction to Field Biology</td>
</tr>
<tr>
<td>Nelson Hairston</td>
<td>Ecology &amp; Evolutionary Biology</td>
<td>E305 Corson Hall <a href="mailto:NGH1@cornell.edu">NGH1@cornell.edu</a> 607-254-4231</td>
<td>Organism response ecologically and evolutionarily to environmental change (human-caused and natural). Algae and small animals can evolve quickly changing their sensitivity to conditions where they live, also altering the environment of species living in the same food web. BIOEE 1610: Ecology and the Environment BIOEE 4570/4571: Limnology: Ecology of Lakes Lecture/Lab BIOEE 6601: Tropical Field Ecology</td>
</tr>
<tr>
<td>Ann E. Hajek</td>
<td>Entomology</td>
<td>6126 Comstock Hall <a href="mailto:AEH4@cornell.edu">AEH4@cornell.edu</a> 607-254-4902</td>
<td>Ecology and sustainable management of insect species in natural areas, the urban environment and croplands. Emphasis on non-native invasives and impacts of climate change on their ecology. ENTOM 2020: Invasions: Trading Species in a Shrinking World ENTOM 4630: Invertebrate Pathology ENTOM 6900: Ecology and Evolution of Infection and Disease</td>
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</table>
| **Matthew Hare**      | Natural Resources      | 205 Fernow Hall                  | Uses genetics as a tool to inform demographic and connectivity studies at the landscape level, studies genetic and population of hatchery-based population supplementation, and genomics for natural selection and adaptation.  
NTRES 2830: DNA, Genes and Conserving Diversity  
NTRES 4100: Conservation Biology: Concepts and Techniques  
NTRES 7283: Molecular Genetic Approaches to the Study of Ecology and Evolution|
| **Drew Harvell**      | Ecology & Evolutionary Biology | E321 Corson Hall                 | Marine Ecology and Sustainable Marine Ecosystems, Invertebrate Biology, Ecology of Infectious Disease, Invertebrate Immunology  
BIOEE 3730: Marine Invertebrate Biodiversity  
BIOEE 4620: Marine Ecosystem Sustainability  
EAS 3510: Conservation Oceanography (Hawaii) Offering a Research Apprenticeship for students in Spring (off-campus) |
| **Peter Hess**        | Biological & Environmental Engineering | 202 Riley Robb Hall              | Relations between the chemistry and composition of the atmosphere, climate and global change. Impacts relating to atmospheric pollution, climate change and threats to human health, agricultural productivity, and natural ecosystems.  
BEE 2000: Perspectives on the Climate Change Challenge  
BEE 4800: Our Changing Atmosphere: Global Change and Atmospheric Chemistry  
BEE/EAS 4940/6940: Cross Scales Biogeochemical Modeling  
BEE/EAS 4940: Climate Change Solutions |
| **Ian Hewson**        | Microbiology           | 403 Wing Hall                    | Biological oceanography, with focus on marine microbiology and marine environmental virology. Examine the responses of marine microorganisms to their habitat, and the composition of viruses associated with marine organisms.  
BIOMI 1100: Microbiology of College Life  
BIOMI 3500: Biological Oceanography and Ocean Biogeochemistry  
BIOMI 6906: Viral Diversity and Ecology |
| **Robert Howarth**    | Ecology & Evolutionary Biology | E309 Corson Hall                 | Earth system science, oceanography, and aquatic ecology, with an emphasis on how human activity is changing our planet and evaluating ways to reduce human impacts through changes in agriculture and energy sources and use.  
BIOEE 1610: Ecology and the Environment (S)  
BIOEE 6880: Principles of Biogeochemistry |
| **George B. Hutchinson** | English American Studies Program | M101 McGraw Hall                 | 19th and 20th century American Literature, African American Literature, Literature and the Environment  
ENGL 1270: FWS-Writing About Literature  
ENGL 3675: The Environmental Imagination in American Literature |

Concentration: EBAE  
Concentration: EBAE  
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Concentration: EBAE, LAWR  
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Concentration: EBAE, EPG, LAWR  
Concentration: EH
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<tbody>
<tr>
<td><strong>Karim-Aly Kassam</strong></td>
<td>Associate Professor</td>
<td></td>
<td>Biocultural Diversity, Ethnobiology, Human Ecology, Indigenous Studies, International Agriculture and Rural Development, Natural Resource Policy, Climate Change Impacts and Adaptation, Ecological Calendars, Environmental Stewardship, Participatory Action Research and Pluralism</td>
</tr>
<tr>
<td></td>
<td>International Professor</td>
<td></td>
<td>NTRES 3330: Ways of Knowing: Indigenous and Local Ecological Knowledge</td>
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<td>NTRES/IARD 4800: Global Seminar Building Sustainable Environmental and Secure Food Systems</td>
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<td>Concentration: EPG</td>
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<tr>
<td><strong>Barbara Knuth</strong></td>
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<td>Human dimensions of fisheries management; environmental and natural resource policy and governance</td>
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<td>Concentration: EPG</td>
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<tr>
<td><strong>Clifford Kraft</strong></td>
<td></td>
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<td>Fish and aquatic ecology, aquatic ecosystem management NTRES 1101: Introduction to Environmental Science and Sustainability NTRES 4300: Environmental Policy Processes NTRES/BIOEE 4560: Stream Ecology</td>
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<td>Concentration: EBAE</td>
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<tr>
<td><strong>Marianne Krasny</strong></td>
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<td>Environmental education, urban youth and community environmental programs, civic ecology education.</td>
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<td>NTRES 2500: Climate Change Science, Communication, and Action NTRES 3700: Global Engaged Learning for Sustainability</td>
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<td>Concentration: EPG</td>
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<tr>
<td><strong>James Lassoie</strong></td>
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<td>Conservation science, community-based natural resource management, ecoagriculture, international development, sustainability science and management IARD/NTRES/ESS 4850: Case Studies in International Eco agriculture and Environmental Conservation IARD/NTRES 2050: Worldly Explorations: Gateway to Engaged International Experiences for Undergraduates</td>
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<td>Concentration: EPG</td>
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<tr>
<td><strong>Bruce Lauber</strong></td>
<td></td>
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<td>Collaborative and community-based natural resource management, Invasive species, Human dimensions of Great Lakes fisheries NTRES 3300: Planning for Environmental Conservation and Sustainability NTRES 4300: Environmental Policy Processes</td>
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<td>Concentration: EPG</td>
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<tr>
<td>Johannes Lehmann</td>
<td>Soil &amp; Crop Sciences</td>
<td>909 Bradfield Hall, <a href="mailto:CL273@cornell.edu">CL273@cornell.edu</a>, 607-254-1236</td>
<td>Biogeochemistry of soils as it relates to functioning of terrestrial ecosystems and the human disturbance such as deforestation, agriculture and climate change. ESS 2000: Environmental and Sustainability Sciences Colloquium, PLCS 4720: Nutrient Management and Research in Agroecosystems, PLCS 6720: Nutrient Cycling in Natural and Managed Ecosystems</td>
</tr>
<tr>
<td>Caroline Levine</td>
<td>English</td>
<td>256 Goldwin Smith Hall, <a href="mailto:CEL235@cornell.edu">CEL235@cornell.edu</a></td>
<td>I am writing a book on sustainability, and the kinds of cultural forms we may need to help us to build a sustainable society. English 1168: Communicating Climate Change</td>
</tr>
<tr>
<td>Bruce V. Lewenstein</td>
<td>Communication and Science &amp; Technology Studies</td>
<td>321 Kennedy Hall, <a href="mailto:B.Lewenstein@cornell.edu">B.Lewenstein@cornell.edu</a>, 607-255-8310</td>
<td>Public communication of science and technology; science museums; science journalism. Comm 2850/STS 2851: Communication, Environment, Science and Health, Comm 3020: Science Writing for Media, Comm 4660: Public Communication of Science and Technology</td>
</tr>
<tr>
<td>Shanjun Li</td>
<td>Applied Economics &amp; Management</td>
<td>405 Warren Hall, <a href="mailto:SL2448@cornell.edu">SL2448@cornell.edu</a>, 607-255-1832</td>
<td>Environmental and energy economics, empirical industrial organization, applied microeconomics. Concentration: EE</td>
</tr>
<tr>
<td>C.-Y. Cynthia Lin</td>
<td>Applied Economics &amp; Management</td>
<td>407 Warren Hall, <a href="mailto:CLINLAWELL@cornell.edu">CLINLAWELL@cornell.edu</a></td>
<td>Environmental and natural resource economics, energy economics, industrial organization, applied econometrics, applied microeconomics. AEM 4500: Resource Economics</td>
</tr>
<tr>
<td>Irby Lovette</td>
<td>Ecology &amp; Evolutionary Biology</td>
<td>E145 Corson Hall, 188 Lab of Ornithology, <a href="mailto:IJL2@cornell.edu">IJL2@cornell.edu</a>, 607-254-2140</td>
<td>Evolution, ecology, behavior, and conservation of birds; genomic approaches to understanding speciation and biodiversity. BIOEE 1250: Spring Field Ornithology, BIOEE 1780: Introduction to Evolutionary Biology and Diversity, BIOEE 2525: Ecology and Conservation of Wildlife in the Neotropics, BIOEE 2526: Neotropical Wildlife Biology, BIOEE/NTRES 7800: Seminar in Ornithology, Spring Galápagos curriculum</td>
</tr>
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Concentration: EBAE
<table>
<thead>
<tr>
<th>Name</th>
<th>Department Affiliation</th>
<th>Contact Info</th>
<th>Research Interests and Courses Taught</th>
</tr>
</thead>
</table>
| **Natalie Mahowald**           | Earth & Atmospheric Sciences | [Image] 1112 Bradfield Hall | Atmospheric biogeochemistry, atmospheric aerosols, earth system modeling  
| **Professor**                  | Mahowald@cornell.edu       | 607-255-5166                   | EAS 3050: Climate Dynamics  
| **Director of Graduate Studies** |                        |                                 | EAS 4400: Climate Change Seminar  
| **Carmen Enid Martinez**       | Soil & Crop Sciences      | [Image] 906 Bradfield Hall     | Soil and environmental chemistry and biogeochemistry. Research projects focus on nitrogen-iron-organic matter cycling and organic matter interactions at mineral surfaces.  
| **Associate Professor**        | CEM20@cornell.edu         | 607-255-0895                   | EAS 3050: Climate Dynamics  
| **Peter McIntyre**             | Natural Resources         | [Image] 204 Fernow Hall        | Ecology, evolution, and conservation of aquatic animals, and the roles that they play in river and lake ecosystems. My field work at sites in Africa, Asia, South America, the Great Lakes, and now the Adirondacks involves close collaborations with local partners and conservation NGOs, and seeks to meet societal needs for water and fish while protecting the integrity of natural ecosystems.  
| **Associate Professor**        | PBM3@cornell.edu          |                                 | EAS 3050: Climate Dynamics  
| **Philip McMichael**           | Development Sociology     | [Image] 113 Academic Surge A   | Current research focuses on ongoing transformations in the global food regime (on global and local scales), affecting land users and land rights, food security, ecosystem integrity and climatic changes.  
| **Professor**                  | PDM1@cornell.edu          | 607-255-5495                   | DSOC 2050: International Development  
| **Stephen Morreale**           | Natural Resources         | [Image] 108 Fernow Hall        | Conservation ecology, vertebrate zoology, amphibians and reptiles, wildlife, forest conservation, marine conservation  
| **Senior Research Associate**  | SJM11@cornell.edu         | 607-254-9412                   | NTRES 3260: Applied Conservation Ecology  
| **Adjunct Associate Professor**|                        |                                 | Concentration: EBAE  
| **Paul Nadasdy**               | Anthropology/ American Indian Studies | [Image] 229 McGraw Hall  | Research focus is on the politics surrounding the production and use of environmental knowledge in wildlife management, land claim negotiations and other political arenas.  
| **Associate Professor**        | PNadasdy@cornell.edu      |                                 | ANTHR 2420: Nature/Culture: The Politics of Human-Environment Relations  
|                                |                        |                                 | ANTHR 3422/AIS 3422: Culture, Politics, and Environment in the Circumpolar North  
|                                |                        |                                 | ANTHR 4410: Indigenous Peoples, Ecological Sciences, and Environmentalism  
| **Nina Overgaard Therkildsen** | Natural Resources         | [Image] 208 Fernow Hall        | Integration of molecular ecology and evolutionary genomics to study contemporary evolution and local adaptation in fish populations with a keen interest in developing ways to leverage genomic analysis for improving sustainable fisheries management.  
| **Assistant Professor**         | NT246@cornell.edu        | 607-255-2014                   | NTRES 3400: Molecular Tools Ecology, Conservation, and Natural Resources Management  
<p>|                                |                        |                                 | NTRES 3500: Computational Skills for Efficient Data Processing and Analysis |</p>
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<tr>
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<tbody>
<tr>
<td>Max J. Pfeffer</td>
<td>Development Sociology</td>
<td>Development Sociology</td>
<td>Teaching concentrates on environmental sociology and sociological theory. Research spans several areas including land use and environmental planning, rural labor markets, rural to urban and international migration. Empirical work covers a variety of rural and urban communities, including rural/urban fringe areas.</td>
</tr>
<tr>
<td>Karen Pinkus</td>
<td>Romance Studies</td>
<td>K269 Klarman Hall</td>
<td>Environmental Humanities with a focus on climate change</td>
</tr>
<tr>
<td>Sara B. Pritchard</td>
<td>Science &amp; Technology Studies</td>
<td>311 Morrill Hall</td>
<td>Environmental history, history of science and technology, environmental STS, and environmental humanities. Previous research focused on history of French water management; current research examines history of light pollution. BSOC/STS 2061: Ethics and the Environment BSOC/STS 3181: Living in an Uncertain World: Science, Technology and Risk BSOC/STS 4131: Comparative Environmental History</td>
</tr>
<tr>
<td>Joe M. Regenstein</td>
<td>Food Science</td>
<td>B92 Morrison Hall</td>
<td>Interests include food waste management with an emphasis on use of fishery byproducts for food and non-food use. Composting of food waste. Working with students to improve Cornell's sustainability.</td>
</tr>
<tr>
<td>Amanda Rodewald</td>
<td>Natural Resources</td>
<td>103 Fernow Hall; Lab of Ornithology, 159 Sapsucker Woods Rd</td>
<td>Ecology, conservation biology, ecological restoration, wildlife population and community ecology, avian ecology and conservation in temperate and tropical regions BIOEE 2670: Introduction to Conservation Biology</td>
</tr>
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<th>Name</th>
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<tbody>
<tr>
<td><strong>Paul Rodewald</strong></td>
<td>Natural Resources</td>
<td>G11 Fernow Hall; Lab of Ornithology, 159 Sapsucker Woods Rd <a href="mailto:PGR35@cornell.edu">PGR35@cornell.edu</a></td>
<td>Ornithology, ecology of songbirds during migration, movement ecology, factors that influence distributional change of birds NTRES 2100: Introduction to Field Biology Concentration: EBAE</td>
</tr>
<tr>
<td><strong>Ivan Rudik</strong></td>
<td>Applied Economics &amp; Management</td>
<td>462 Warren Hall <a href="mailto:IRUDIK@cornell.edu">IRUDIK@cornell.edu</a></td>
<td>Climate change, energy, environmental quality AEM 4940: Special Topics in AEM AEM 6510: Environmental and Resource Economics Concentration: EE</td>
</tr>
<tr>
<td><strong>Lars Rudstam</strong></td>
<td>Natural Resources</td>
<td>211A Fernow Hall <a href="mailto:LGR1@cornell.edu">LGR1@cornell.edu</a> 607-255-1555</td>
<td>Aquatic ecology from fish to nutrients. Current research topics range from analysis of deep chlorophyll layers in the Great Lakes, to zooplankton dynamics, diseases in benthic crustaceans, restoration of native fish species, and fisheries. NTRES 3110: Fish Ecology, Conservation and Management NTRES 3111: Fish Ecology Laboratory</td>
</tr>
<tr>
<td><strong>Aaron Sachs</strong></td>
<td>History American Studies Program</td>
<td>McGraw 350 <a href="mailto:AS475@cornell.edu">AS475@cornell.edu</a> 607-255-1978</td>
<td>Environmental History, Environmental Justice History 2581: Environmental History Concentration: EH</td>
</tr>
<tr>
<td><strong>Rebecca Schneider</strong></td>
<td>Natural Resources</td>
<td>220 Fernow Hall <a href="mailto:RLS11@cornell.edu">RLS11@cornell.edu</a> 607-255-2110</td>
<td>Sustainable management of water resources, wetland ecology and hydrology, plants and groundwater NTRES 3240: Sustainable, Ecologically Based Management of Water Resources Concentration: EBAE, EPG, LAWR</td>
</tr>
<tr>
<td><strong>William Schulze</strong></td>
<td>Applied Economics &amp; Management</td>
<td>109 Warren Hall <a href="mailto:WDS3@cornell.edu">WDS3@cornell.edu</a> 607-227-9895</td>
<td>Experimental and behavioral economics. Directed a project that constructed model of the US electric power system including high voltage lines, existing generation, emissions and health effects and predicts investment in new generation including wind and solar. AEM 4580/6580: The Economics and Psychology of Sustainable Business Concentration: EE</td>
</tr>
<tr>
<td>Name</td>
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<tr>
<td><strong>Peter Smallidge</strong></td>
<td>Natural Resources</td>
<td>219 Fernow Hall</td>
<td>Control of interfering vegetation, forest regeneration, production of high quality timber, maple syrup production NTRES 3250: Forest Management and Maple Syrup Production Concentration: EBAE</td>
</tr>
<tr>
<td><strong>Jed Sparks</strong></td>
<td>Ecology &amp; Evolutionary Biology</td>
<td>E408A Corson Hall</td>
<td>Interested in ways that organisms influence the cycling of elements and energy within ecosystems and between ecosystems and the atmosphere. Tend to focus on the ecology of arid and semi-arid terrestrial landscapes. BIOEE 3610: Advanced Ecology Concentration: LAWR</td>
</tr>
<tr>
<td><strong>Richard Stedman</strong></td>
<td>Natural Resources</td>
<td>101 Fernow Hall</td>
<td>Natural resource based communities, social change, coupled human and environmental systems, environmental attitudes, social science methods, and environmental risk NTRES 2201: Society and Natural Resources NTRES 4320: Social Science and Resource Policy: Applications DSOC/NTRES 6201: Community, Place, and Environment Concentration: EPG</td>
</tr>
<tr>
<td><strong>M. Todd Walter</strong></td>
<td>Biological &amp; Environmental Engineering</td>
<td>222 Riley-Robb Hall</td>
<td>Hydrology, interactions between ecological and hydrological systems, water quality protection, and applications of nanobiotechnology to environmental science BEE 3710: Physical Hydrology for Ecosystems Concentration: EBAE, LAWR</td>
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<tr>
<td>Name</td>
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<tr>
<td>David W. Winkler</td>
<td>Ecology &amp; Evolutionary Biology</td>
<td>E241 Corson Hall</td>
<td>Ornithologist with strong interests in physiological, evolutionary and behavioral ecology; explores the causes of temporal and spatial variation in the life histories of birds, focusing mostly on breeding biology and movements</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:DWW4@cornell.edu">DWW4@cornell.edu</a></td>
<td>BIOEE 3610: Advanced Ecology</td>
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<td>BIOEE 4750: Ornithology</td>
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<tr>
<td></td>
<td></td>
<td>607-254-4216</td>
<td>Concentration: EBAE</td>
</tr>
<tr>
<td>Steven Wolf</td>
<td>Natural Resources</td>
<td>121 Fernow Hall</td>
<td>Political economy of environment, environmental governance, multifunctional landscapes, agri-environmental policy</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:SAW44@cornell.edu">SAW44@cornell.edu</a></td>
<td>NTRES 3301: Sustainability Science</td>
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<tr>
<td></td>
<td></td>
<td>607-255-0282</td>
<td>NTRES/DSOC/BSOC 3311 and NTRES 6310: Environmental Governance</td>
</tr>
<tr>
<td></td>
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<td>NTRES 4520: Land Use and Sustainable Livelihoods in the Nilgiris (India)</td>
</tr>
<tr>
<td>David W. Wolfe</td>
<td>Horticulture</td>
<td>117 Plant Science</td>
<td>Climate change adaptation and mitigation strategies for agriculture and natural ecosystems. Soil health and water and nitrogen management for sustainable crop production. Science communication</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:DWW5@cornell.edu">DWW5@cornell.edu</a></td>
<td>PLHRT 1160: Nature Writing (First-Year Writing Seminar)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>607-255-7888</td>
<td>PLHRT 3600: Climate Change and the Future of Food</td>
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<td>Concentration: EBAE</td>
</tr>
<tr>
<td>Wendy Wolford</td>
<td>Development Sociology</td>
<td>263 Warren Hall</td>
<td>Issues within and between the political economy of development, agrarian studies, social mobilization, land reform and political ecologies of conservation</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:WWW43@cornell.edu">WWW43@cornell.edu</a></td>
<td>IARD/DSOC 2020: Principles of International Agriculture and Rural Development</td>
</tr>
<tr>
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<td>DSOC 3200/5200: Political Economy of Global Development</td>
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<td>DSOC 6150: Qualitative Methods</td>
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<td>DSOC 7290: Agrarian Social Movements</td>
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<td>Concentration: EPG</td>
</tr>
<tr>
<td>Mark Wysocki</td>
<td>Earth &amp; Atmospheric Sciences</td>
<td>1114 Bradfield Hall</td>
<td>Air pollution and weather analysis</td>
</tr>
<tr>
<td></td>
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<td><a href="mailto:MWW3@cornell.edu">MWW3@cornell.edu</a></td>
<td>EAS 1310: Basic Principles of Meteorology</td>
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<td>EAS 1340: Basic Meteorology Lab</td>
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<td>EAS 1600 Environmental Physics</td>
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<td>EAS 3520: Synoptic Meteorology I</td>
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<td>EAS 4570: Atmospheric Air Pollution</td>
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<td>EAS 4700: Advanced Weather Forecasting and Analysis</td>
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<td>EAS 5050: Fluid Dynamics in the Earth Sciences</td>
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<td>Concentration: EPG</td>
</tr>
<tr>
<td>Joseph Yavitt</td>
<td>Natural Resources</td>
<td>G21 Fernow Hall</td>
<td>Biogeochemistry, microbial ecology, forests and wetlands</td>
</tr>
<tr>
<td></td>
<td></td>
<td><a href="mailto:JBY1@cornell.edu">JBY1@cornell.edu</a></td>
<td>NTRES 2010: Environmental Conservation</td>
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<td>NTRES/EAS 3030: Introduction to Biogeochemistry</td>
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<td>NTRES 3220: Global Biodiversity</td>
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<td>Concentration: EBAE, LAWR</td>
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<tr>
<th>Environment &amp; Sustainability Office</th>
<th><a href="mailto:environment@cornell.edu">environment@cornell.edu</a></th>
<th>ess.cals.cornell.edu</th>
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<tr>
<th>Name</th>
<th>Contact Info</th>
<th>Research Interests and Courses Taught</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cliff Kraft</td>
<td>117 Kennedy Hall</td>
<td>Faculty Director of Environment &amp; Sustainability (E&amp;S) program that oversees the Environmental and Sustainability Sciences (ESS) major in the colleges of Agriculture and Life Sciences and Arts &amp; Sciences.</td>
</tr>
<tr>
<td></td>
<td>203 Fernow Hall</td>
<td></td>
</tr>
<tr>
<td></td>
<td><a href="mailto:CEK7@cornell.edu">CEK7@cornell.edu</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>607-255-2775</td>
<td></td>
</tr>
<tr>
<td>Colleen Kearns</td>
<td>117 Kennedy Hall</td>
<td>Oversees operations, curriculum management, coordinate workshops, research advising and senior research honors program, supports undergraduate advising.</td>
</tr>
<tr>
<td>E&amp;S Program Manager</td>
<td><a href="mailto:CMK4@cornell.edu">CMK4@cornell.edu</a></td>
<td></td>
</tr>
<tr>
<td>Suzanne Wapner</td>
<td>G15 Fernow Hall</td>
<td>Academic advising resource for faculty and undergraduates, oversees E&amp;S program communications, ESS alumni network, teaching support for ESS 2000: Environmental and Sustainability Sciences Colloquium.</td>
</tr>
<tr>
<td>E&amp;S Advising &amp;</td>
<td>117 Kennedy Hall</td>
<td></td>
</tr>
<tr>
<td>Communications</td>
<td><a href="mailto:SW38@cornell.edu">SW38@cornell.edu</a></td>
<td></td>
</tr>
<tr>
<td>Coordinator</td>
<td>607-255-1269</td>
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</tbody>
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Words of Wisdom from Your Peers

Based on what other students learned from their freshman year experience, we share with you some responses when asked about the one specific thing that prior students will do differently in the future, as well as the single best bit of advice they received so far.

• Don’t procrastinate!
• Seek math tutoring earlier, enroll in help classes (000 classes).
• Try to spend more time on central campus (library, office hours), spend less time in dorm, fewer distractions.
• Explore Ithaca!
• Get involved in outside activities, environmental programs.
• Attend more seminars and meet visiting professors. It is important to make the time to attend and introduce yourself to different people, learn beyond your major. If you are interested in an event or activity, don’t hesitate to attend by yourself. You will be surrounded by a group of like-minded people.
• Be open to try new things and engage in new activities.
• There is so much to experience here and you need to be open minded in the ways in which you receive your education, other than in-class.
• Consider the advice of your classmates and peers. Will you offer the same advice in eight months?
• Work hard and enjoy it!
• Do not get too caught up in schoolwork. If you get too stressed out it will take a toll on your performance both in and outside.
• Go to Calculus Review sessions.
• Get work done quickly, don’t procrastinate.
• Don’t compare yourself to others.
• Office hours are one of the most helpful things you can take advantage of.
• Be broad in learning; take classes outside your major. Great to be well-rounded, discover new things.
• Keep up on readings for courses.
• It is ok if you do not know what you want to do right away. Undergrad is a time to explore and find out. Rule out what you do not want to do and find a few things that you like. You can learn more in grad school, or at a job, or in life in general.
• Don’t let stress get the best of you; relax and things will work themselves out.
• Don’t procrastinate!
• Be involved, four years go by very fast.
Graduate Highlights: Class of 2018

The process of exploring interests, planning course work, and learning about careers is significantly enhanced by the presence of academic staff involved in a wide range of research and public education related to contemporary environmental science problems. They include not only teaching faculty, but research and outreach education specialists of many types who confer with students and mentor independent study projects and volunteer work experiences of our students. Students are encouraged to complement their education with internships, related employment, volunteer experience, and activities in organizations. Below is an excerpt from our May 2018 graduate brochure highlighting the types of activities ESS majors participated in during their time at Cornell and what their future plans were (if known).

HAILEY - Activities: Cornell Global Awareness Program, Co-president; Phi Mu; Alpha Phi Omega; Peer Mentor. Internships: Shoals Marine Lab (Summer 2016); Conservation Steward, New York State Parks (Summer 2017). Plans: Volunteer/work with wildlife organizations.

ERIKA - Activities: Co-President of Mixed at Cornell; Going Global Research Advisor of AguaClara Cornell Engineering Project Team. Internships: Green Mountain Energy, Orange and Rockland County, NY; Suez North America, Leonia, NJ; Covanta Energy, Morristown, NJ

KEITH - Activities: Cornell Daily Sun Sports Writer; Writing Center Tutor; Chess Club; Badminton Club; Fly Fishing; Running, Cross Country Skiing. Internships: Summer Intern, Connecticut Department of Energy and Environmental Protection’s Waste Engineering and Enforcement Division, Hartford, CT (Summer 2017); Heirloom Seed Gardener at Pennsylvania German Cultural Heritage Center, Kutztown, PA (Summer 2016). Plans: Masters of Environmental Management (Water Resources Management Concentration) at Duke University

BRENDON - Activities: Co-President of Cornell Environmental Collaborative (ECO); Climate Justice Cornell; President’s Sustainable Campus Committee Executive Committee. Internships: Student Sustainability Coordinator at the Campus Sustainability Office. Plans: Paralegal work followed by law school

HIʻILEI KAMAILE - Activities: Case Studies Assistant for Cornell University DNR-HDRU; “Community Deer Advisor” (2016 - 17); Visitor Center and Education Programs Assistant at the Cornell Lab of Ornithology (2016 - 17); Student Administrative Assistant for Cornell University Dept. of Natural Resources (2015 - 16); Co-President (2017 - 18), Public Relations Chair (2016 - 17) of Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) Cornell Chapter; Founder and Treasurer (2017 - 18) of Pacific Island Student Association (PISA) at Cornell University; President (2016 - 17), Public Relations Chair (2015 - 16) of Cornell Nature Society; President (2016-17), Vice President (2015 - 18) of Cornell Hawai’i Club; Student Ambassador (2014 - 15) of Cornell University Increasing Multicultural Admissions and Gains in Enrollment (CU IMAGE); Student Tutor (2016) with American Indian and Indigenous Studies Program. Plans: Attending University of Hawai’i Mānoa’s Masters of Environmental Management program.

ALEX - Activities: Pi Kappa Alpha; Student Management Corporation Board of Directors. Internships: EY Launch Program, NYC (Summer 2016); Ironshore Environmental Underwriter, NYC (Summer 2017). Plans: Marine Risk at Starr.

KAREN - Activities: Assistant for NY Master Naturalist Program and Edward L Rose Conservancy; Cornell Thrift (Programming Coordinator 2018, 2017); Environmental Collaborative (Design Director 2016, Publicity Committee 2015); Nature Rx Student Representative (2016 - 17); Student Assembly Environmental Policy and Planning Committee (2016, 2017); CU Reuse (President 2017, member 2016). Biology Scholar; Volunteer for Anabel’s Grocery. Programs: Frontiers Abroad New Zealand (2017); Partnership for Global Conservation Experience Fellow; Peruvian Amazon (January 2018); Biology Scholars Galapagos Program (2015). Internships: Arnot Teaching and Research Forest with Steve Moreale and Kristi Sullivan (2015); San Diego Zoo Institute for Conservation Research – Applied Animal Ecology Research Fellow (2016, Burrowing Owl Project); Cal Trans Environmental Division Intern (Dec, Jan 2016). Plans: I will be working with the US Forest Service in the Sierra Nevada mountains on their Carnivore Monitoring Project (focusing on marten and fisher) for summer and fall.


SHUJJUAN - Internships: Cornell Biological Field Station (Summer 2017). Plans: Harvard University, graduate school.

ELIZABETH - Activities: Climate Justice Cornell, Campaign Coordinator, mentor (2015 - 2018); Environmental Collaborative, ECO Rep (2015 - 2016); Climate Action Advisory Group, Undergraduate Representative (2016 - 2017); Big Red Marching Band, Tenor Sax (2014 - 2018); Forest Ecology Intern, Goebel/Weinstein (Summer 2015 - Summer 2017); Research Assistant Intern, Hairston Lab (Spring 2015).
Programs: IES Environmental Studies and Sustainability (Fall 2017); Doris Duke Conservation Scholars Program (DDCSP) (Spring 2015 - Fall 2016). Internships: DDCSP Forest Ecology Intern (Summer 2015 - Summer 2017); Field internships at the Amot Forest, Van Etten, NY (Summer 2015); DDCSP Renewable Energy and Wildlife Intern, Washington, D.C. (Summer 2016); Atkinson-EDF Collaborative Clean Energy Policy Intern, San Francisco, CA (Summer 2017). Plans: To take the LSAT.

NATHAN - Activities: Goodale Lab Assistant (2017 - now); Forage Breeding Project/Lab Assistant (Spring 2017) Tutoring (Fall 2016 – Spring 2017), Academic Coach Dryden Middle School (Spring 2016). Plans: PhD program, Plant and Soil Science, UMASS Amherst.

ELIZABETH - Activities: Cayuga Lodge Cooperative (Member, 2015 - 2018 and President, 2017 - 2018); Cornell Outdoor Education (Land, Paddle, Rock and Ski Instructor); Cornell University Sustainable Design (Project team lead); Food Recovery Network (Volunteer Coordinator, Spring 2015 - Fall 2016); Deixa Sambar Brazilian Ensemble; Mann Library Student Employee; Outdoor Odyssey (Guide and Selection Committee); Undergraduate Research in Natural Resources, Landscape Architecture & Biological and Environmental Engineering Departments; Sabor Latino Dance Ensemble. Programs: Student Multidisciplinary Applied Research Team in KwaZulu Natal, South Africa (Winter 2015 - 2016). Internships: Summer 2015 Research Assistant with the Yucatan Conservation Lab in Yucatan, Mexico. Summer 2016 Intern with the Cornell Farmworker Program in Ithaca, NY. Summer 2017 Intern in environmental governance with the CALS Global Fellow Program in New Zealand. Plans: One final summer in Ithaca promises climate adaptation planning research, gorge swimming, and tacos. Afterwards I hope to move to a new city and keep an iteration of this trio alive, this time far from an academic institution, before looping back to pursue a higher degree.

EMMA - Activities: Research assistant with the Hairston Lab of Limnology; Musical Director of Nothing But Treble all female a cappella; Co-founder and Treasurer of Cornell Votes; Andrew Goodman Foundation Ambassador. Internships: I spent two summers working at the Hairston laboratory, where I studied harmful algal blooms in Lake Honeoye. I also worked as the policy and communications intern at the Environmental and Energy Study Institute in Washington, D.C. during my gap semester my junior year. This past summer, I was in the Atkinson Fellow Program, where I worked as the sustainable supply chain intern at Environmental Defense Fund. Plans: After graduation, I will be moving to Boston to work as the Clean Water Fellow with Environment America.

JACQUELINE - Activities: Phi Mu Sorority; Lady Bears Club Volleyball, Co-captain (2017 – 2018); Mattin’s Café, Student Supervisor. Programs: NTRES 4300: Environmental Policy Processes, Washington, D.C. (Winter/Spring 2018). Internships: Cornell Biological Field Station, Education and Outreach (Summer 2016); Cornell Biological Field Station, Groundwater Hydrology; Common Terns (Summer 2017). Plans: After graduation I’ll be interning at the Environmental Defense Fund in the San Francisco Office in the Oceans Division researching marine fisheries management, with a focus on red snapper.

EMILY - Activities: Cornell Outdoor Education (COE) Instructor; Research Assistant for fawn survival study (Fall 2017 - Spring 2018). Internships: Wildlife Technician for fawn survival study, Fort Drum, NY (May - July 2016, June 2017). Plans: I will be working for Western New York PRISM as an intern surveying for the invasive grass slender false brome.

BROOKE - Activities: CALS Ambassador; Alpha Phi Fraternity; Research Assistant for the Department of Ecology and Evolutionary Biology Lab. Programs: Study Abroad Copenhagen, Denmark (Fall 2016); CALS Global Fellows Program Sydney, AUS (Summer 2017). Internships: Global Green USA Internship, Santa Monica, CA (Summer 2016); Energy Crossroads Denmark Chapter (Fall 2016); Greenpeace Australia Pacific (Summer 2017). Plans: Unsure as of this moment, but I am hoping to be working as an environmental consultant in CA.

ROBERTA - Activities: African Development Association Director of Logistics (2017), Director of Development Programs (2017 - 2018). Internships: NYC HRA (Summer 2015), Ministry of Food and Agriculture, Ghana (Summer 2017). Plans: Jumping right into the job search and later, post grad school (will perhaps study Food and agriculture /international development).

KRISTINA - Activities: CALS Dean’s Student Advisory Council (2015 - 2018); Cornell Sustainable Enterprise Association (2015 - 2018). Programs: Cornell SMART (September 2017 - April 2018). Internships: The Farm at Natirar; Marketing Intern at IVY. Plans: I will be working as a Category Specialist at Jet.com in Hoboken, NJ.

CARLI - Activities: President and Founder of Epsilon Eta Kappa Chapter; Cornell University Sustainable Design (CUSD); CALS Ambassadors; Phi Mu Sorority; Environmental Policy and Planning Committee of the Student Assembly; Research Assistant for the Urban Horticulture Institute. Programs: CALS Global Fellows (Summer 2016); Transatlantic Summer Academy on Sustainability (Summer 2017). Internships: Cornell Small Farms Program, Ithaca, NY (2015 - Present); Janada L. Batchelor Foundation (now Mainsprings), Kitongo, Tanzania (June, July 2016). Plans: After graduation, I’ll be going back home to Michigan to build up my portfolio and work experience. I’ll also be taking the GRE to prepare for grad school. I look forward to spending time with my family and cats this summer, and working in my garden.

JEFFREY - Activities: Cornell Chapter of the American Meteorological Society; Fundraising Chair (Fall 2015 - present); Phi Alpha Delta; Cornell Thrift. Programs: Climate Change Awareness and Service Learning in the Mekong Delta, Vietnam (Fall 2016); Cornell in Washington: NTRES 4300: Environmental Policy Processes Class (Winter/Spring 2018); Field Biology: Climate Change and Fall Foliage Research Project (co-authored with Kristina Thoren). Internships: Stroud Water Research Center, Avondale PA (Summer 2017); PennEnvironment, Philadelphia PA (Summer 2016). Plans: Waiting to hear back from graduate school.

KURT - Activities: Varsity Football, Army ROTC. Programs: Army ROTC (four years). Plans: Infantry Officer in the Army
JASMINE - Activities: Research Assistant for NYS Hemlock Initiative; Co-President of Youth Outreach Undergraduates Reshaping Success (YOURs); Student Employee at Temple of Zeus. **Programs:** Shoals Marine Lab (Summer 2014). **Internships:** Fort Drum Deer project, Undergraduate Research Assistant (Summer 2016); New York State Parks, Conservation Management Steward (Summer 2017). **Plans:** I am hoping to work as a field technician while applying for wildlife biology programs for grad school.

NATHANIEL - Activities: Green Revolving Fund (2015); Cornell University Sustainable Design (2016). **Programs:** SIT Tanzania (2017). **Internships:** Environmental Defense Fund (2016); Cornell Cooperative Extension of Tompkins County (2017); Syracuse University Environmental Finance Center (2017). **Plans:** Working as a Paralegal in New York City.

SOPHIE - Activities: Temple of Zeus Café Worker (2015 - 2018); Phi Sigma Sigma Executive Board (2017); Derry Lab Research Assistant (Spring 2017); Farmer’s Market at Cornell, Volunteer (Spring 2016) NTRES 2100: Field Biology Teaching Assistant (Fall 2016). **Programs:** NTRES 4300: Environmental Policy Processes, Washington D.C. (Winter/Spring 2018) **Internships:** Invasive Species Monitoring Steward, Skaneateles Lake Association (Summer 2015 - 2016); DNR Intern, Cornell Biological Field Station (Summer 2017). **Plans:** This summer, I will be working for the Environmental Defense Fund as an Atkinson Center intern for their Consumer Health division within the EDF+ Business group in Washington D.C. I hope to continue working in D.C. for the remainder of the year, and then apply for a Master’s program in environmental management and/or environmental chemistry in the fall of 2019.

TAYLOR - Activities: Director of WasteNot (2015 - 2017); Director of Cornell Thrift (2015 - 2017); Undergraduate Research, Bemis Lab (2015 - 2017); Display Coordinator for Cornell Cinema (2015 - 2017); Master Composer of Tompkins County (2015); President’s Sustainable Campus Committee (PSCC), Waste Focus Team (2016 - 2017); Vice President of Cornell Nature Society (2015 - 2016). **Programs:** Cornell Ocean Research Apprenticeship for Lynch Scholars (CORALS) (Spring 2018); Underwater Research course at Shoals Marine Lab (Summer 2016). **Internships:** Zero Waste Intern at Shoals Marine Lab (Summer 2017). **Plans:** I will spend the summer working as the Natural Areas Steward for Cornell Botanic Gardens, then I intend to spend some time backpacking and traveling before pursuing work or further education. I hope to research the impacts of plastic debris on marine communities and develop strategies for waste mitigation.

ALEC - Activities: Army ROTC Cadet; Battalion Executive Officer; House Manager Seal and Serpent Society; Lab Assistant at Cornell Stable Isotope Lab (2016-2018). **Internships:** Department of Natural Resources Internship, Arnot Forest (Summer 2016). **Plans:** I will be heading to Fort Benning Georgia to complete Armor Basic Officer Leaders Course. From there I will lead an Armored Platoon wherever the United States Army sends me. After fulfilling my commitment to the Army, I plan on pursuing a PhD program in either Plant Physiology or Forest Ecology.

SARA - Activities: CALS Ambassador; New Student Orientation Supervisor; Cross-Cultural Adoptee Mentorship Program Co-President; Engaged Cornell Research Assistant. **Programs:** Study Abroad in Galapagos Islands, Ecuador (Spring 2017) **Internships:** NYS Department of Environmental Conservation Externship (Winter 2016); US Forest Service Field Research Internship (Summer 2016); Dow AgroSciences Research and Development Internship (Summer 2017). **Plans:** Environmental Education in Nicaragua, Peace Corps Volunteer

MAIA - Activities: CALS Student Services Peer Advisor; Office of Engagement Initiatives Engaged Ambassador; Rotaract; Planned Parenthood Generation Action; Cornell Environmental Collaborative; Splash; Young Democratic Socialists. **Plans:** I will be graduating in December 2018, so I have not finalized my post-graduation plans yet. However, I intend to seek employment in the policymaking sector pertaining to environmental displacement and disaster recovery before pursuing a relevant graduate degree in the near future.

CATHERINE - Activities: Student Research Assistant, Cornell Stable Isotope Lab (COIL) (September 2016 – December 2017); Farmers’ Market at Cornell, Co-Manager and Treasurer (January 2015 – May 2018); On Tap Dance Troupe, Treasurer (September 2014 – May 2018); Alpha Phi Omega, Brother (September 2015 – May 2018); Cornell Club of Taiwan, Director of Finance (September 2015 – May 2017). **Internships:** Summer undergraduate intern at Academia Sinica in Taiwan, Taipei (Summer 2017). **Plans:** I will be in Sicily: conducting field research on burying beetles for two months this summer. After that, I will continue doing research on burying beetles at Academia Sinica in Taipei, Taiwan for my gap year. I plan to apply for graduate school at the end of this year.

OLIVIA - Activities: Director of Operations, Cornell Thrift (2016); Sustainability Chair-Pi Beta Phi (2015 – 2016); Women’s Varsity Rowing (2014 - 2016). **Programs:** CALS Exchange to Hong Kong University of Science and Technology (Spring 2017). **Internships:** NYC Department of Environmental Protection Bureau of Legal Affairs, NY, NY (Summer 2016); U.S. Department of State Bureau of Oceans and Environmental and Scientific Affairs, Washington, D.C. (2017). **Plans:** Will be applying to law schools in the Fall

LIZ - Activities: After Eight A Cappella (2015 – 2018), President (2016 - 2017); A Cappella Advisory Council (2015 – 2018), Secretary (2016), President (2017); Cornell University Chorus (2014 – 2018), Sales Manager (2014 – 2015), Secretary (2015 – 2016), Centennial Chair (2015 – 2017), Tour Manager 2016 - 2017); CALS Ambassadors (2016 – 2018), Recruitment Coordinator (2017); Phi Mu (2015 – 2018), Secretary (2017); Epsilon Eta, Secretary (2018); Inter-Coordinate Council, Secretary (2015); Cornell Lab of Ornithology Tour Guide; Fort Drum Deer, TA for NTRES 2100: Introductory Field Biology (2016 - 2017); Teaching Assistant, EDUC 2200: Introduction to Adult Learning: Education Workshop, (2018). **Programs:** Shoals Marine Laboratory (Summer 2015). **Internships:** Telemetry intern with Fort Drum Deer, Fort Drum, NY (Summer 2016); Education intern at Wildwood Park and Olowine Nature Center, Harrisburg, PA (Summer 2017). **Plans:** After graduation, I'm looking forward to catching up with friends and family while traveling to a few music festivals over the summer. I'm hoping to find informal science education and outreach work in a zoo, botanic garden, or natural history museum before heading to grad school!
**CLAIRE** - **Activities:** Alpha Phi Omega; Cayuga’s Watchers; Project Hope, Publicity Chair (2015 - 2016).  **Internships:** Science Undergraduate Laboratory Internships (SULI) Program, Brookhaven National Laboratory, Long Island, NY (Summers 2016, 2017).  **Plans:** Pursuing an MPS degree in Conservation Biology at SUNY-ESF, Syracuse starting Fall 2018.

**iman** - **Activities:** American Fisheries Society Cornell Branch, Secretary; Biology Service Leaders; Millennial Voices Project Club, Co-founder.  **Internships:** Cornell Biological Field Station Intern (Summers 2016, 2017).  **Plans:** MS at SUNY ESF studying invasive species, toxicology and fish disease.

**jordan** - **Activities:** Callbaxx A Capella; Sabor Latino Dance; Cornell Commitment.  **Programs:** CIEE: Study Abroad Costa Rica (Spring 2017).  **Internships:** The Science Exchange Sea Turtle Research, Mexico (Summer 2016); Monteverde Institute Environmental Education Database Development, Costa Rica (Winter 2018).  **Plans:** Will be working as a wetland technician for the Nature Conservancy office of Western and Central NY in Rochester. The following winter, will be working at The University of Georgia’s resident naturalist at their campus in San Luis, Costa Rica.

**Emily** - **Activities:** Greeks Go Green; Farmers’ Market at Cornell; Teaching Assistant, NTRES 2100: Field Biology.  **Programs:** Study Abroad Copenhagen (Spring 2017).  **Internships:** Cornell Cooperative Extension (2017 – 2018); Nestle Waters North America (Summer 2017); Environment America (Fall 2016).  **Plans:** Pursuing a career in sustainable business.

**Jake** - **Activities:** Research Assistant, Cornell Institute for Climate Smart Solutions (June 2017 - May 2018).  **Programs:** Cornell in India: Nilgiris Field Learning Center (Spring 2017), Cornell Delegation to UNFCCC CoP 23 (November 2017).  **Internships:** NYC Parks, GreenThumb (Summer 2016); Cornell Cooperative Extension; Seneca County (Summer 2017).  **Plans:** Litigation Paralegal at Weil, Gotshal and Manges LLP

**Laura** - **Activities:** Student Assistant for Celebrate Urban Birds; founding member of Cornell Hydroponics (Fall 2015), Secretary (Fall 2015 - Spring 2016); Cornell Concert Commission; CU IMAGE; Orientation Leader (Fall 2016) and Supervisor (Fall 2017); Member of Kappa Delta Sorority; Member of Environmental Committee of Student Assembly (Fall 2016); Friends of Farmworkers, Farm Liaison (Fall 2016 - Spring 2017).  **Internships:** CHAMPS Summer Program (Summer 2015); Intern at World Bank in the Department of Health, Nutrition and Population Global Practice in Latin America and the Caribbean (Summer 2016); Cornell Farmerwork Program (Summer 2017).  **Plans:** Working with the Produce Safety Alliance in Geneva, NY during the summer after graduation.

**Dejah** - **Activities:** CALS Ambassador; Hunter R. Rawlings Presidential Research Scholars Program; Ujamaa Hall Council President (2014-2015).  **Programs:** SEAM Seminar: Aloha ‘Aina, People and Nature in the Hawaiian Islands and School for International Training (Climate Change: The Politics of Food, Water, and Energy in Morocco, Vietnam, and Bolivia) (Spring 2017).  **Internships:** Summer Undergraduate Research in Geoscience and Engineering (SURGE), Stanford University.  **Plans:** Civic Consulting Alliance, Chicago, IL

**Paul** - **Activities:** Cornell Tradition Student Advisory Committee (2016-2017); Undergraduate Research Assistant; Soil Health Lab (2017); Undergraduate Research Assistant, New York State Hemlock Initiative (2018).  **Programs:** Student Leader for two international service and cultural immersion trips to Nicaragua (2016, 2017); Undergraduate Research “Testing the Efficacy of Differing Woody Amendments with Regard to Water Retention in Desertified Soils,” (Spring 2018).  **Plans:** I plan to take a gap year applying to graduate programs in the fields of soil health, forest conservation or population analysis and ecological modeling.

**Troy** - **Activities:** Varsity Men’s Lacrosse (2014 – 2018); Big Red Leadership Institution (2014 – 2018); Big Red Readers, Coordinator (2017 – 2018); Cornell Men’s Lacrosse Head of Alumni Relations (2017 – 2018).  **Internships:** Lazard Asset Management (Summer 2017); NorCal Lacrosse (Summer 2016); David Lerner Associates (Summers 2014, 2015).  **Plans:** After graduation I will be joining Baker Hughes, a GE company, as an Analyst in their Financial Management Program. The program is a two-year rotational program consisting of four rotations in cities around the world. My first rotation begins in July in Houston, Texas where I will be an Analyst in the Turbo Machinery Process and Solutions Group.

**Alice** - **Activities:** Women’s Varsity Rowing Team (2014 - 2018), Team Captain (2017 - 2018).  **Internships:** ECM Energy Management Services, NYC (2015); RXR Realty, NYC (Summer 2016); Empire State Realty Trust, NYC (2017).  **Plans:** Project Manager/Rotational Associate, Empire State Realty Trust, New York City

**Dora** - **Activities:** Cornell Outdoor Education; Cornell Prison Education Program; Cornell University Sustainable Design; Whitmore Lab, New York State Hemlock Initiative; Cornell Speech and Debate Society.  **Internships:** Environmental Defense Fund (Summer 2017).  **Plans:** Climbing giant sequoias after graduation; pursuing an accelerated MPA through the Cornell Institute for Public Affairs in the fall.

**Brittney** - **Activities:** Agroecology Research Assistant with Rachel Bezner-Kerr (2 years), Teaching Assistant, NTRES 2100: Field Biology (Fall 2017), Teaching Assistant, MOOC (Massive Open Online Course) (Spring 2018), Society for Nature Resource Conservation (SNRC); Cornell Caribbean Student’s Association; ECO delegate; Cornell Waste Council (CWC) (Secretary).  **Internships:** Intern with the City of Atlanta’s Office of Sustainability (2016); Crustacean Ecology intern; MOTE Marine Laboratory and Aquarium (2017).  **Plans:** Working in the Environmental Education/Communication field for a couple years before graduate school.

**Kristina** - **Activities:** College of Agriculture and Life Sciences (CALS) Dean’s Student Advisory Council; Phi Alpha Delta; Teaching Assistant, COMM 2010: Oral Communication (Fall 2017, Spring 2018); Cornell Chapter of the American Meteorological Society: Sports
Weather Forecaster; Chair of Academic Integrity Board; Member of Cornell Library Committee; Cornell Student Ambassador; Chair of the President’s Sustainable Campus Water Committee. Programs: NTRES 4300: Environmental Policy Processes Course, Washington, D.C. Winter/Spring 2018; Field Biology: Climate Change and Fall Foliage Research Project (co-authored with Jeffrey Fralick). Internships: National Oceanic and Atmospheric Administration, Key Biscayne, FL (Summer 2015); Dubow, Dubow, and Wallace Law Firm, Ft. Lauderdale, FL (Summer 2017). Plans: Taking a gap year before attending University of Miami School of Law.

Resources

Academic and Personal Resources: http://cals.cornell.edu/academics/advising/academic/resources/

Advising and Diversity Team in the Student Services Office  Athletics Student Services  Biology Advising Center  CALS Tutoring Services  Career Development Team in the Student Services Office  Counseling and Psychological Services (CAPS)  Health Careers  Help Sheet  Learning Strategies Center  Mathematics Support Center  Student Disability Services  Students with Children  Writing Workshop

Learning Strategies Center: http://lsc.cornell.edu/ The central academic support unit for undergraduates at Cornell University, the LSC provides tutoring and supplemental courses in Biology, Chemistry, Economics, Math, and Physics. Assistance in improving study skills is available through semester long courses, workshops, individual consultations, and web site resources.

Courses Related to Sustainability: http://www.acsf.cornell.edu/education/curricula/ Information about some courses across campus that relate to sustainability can be found at this site. The list can be sorted by level, department, semester, etc. The creators of this list have somewhat arbitrarily labeled courses as introductory (Intro), fundamental (Fund) or specialized (Spec). However, students should look at prerequisites, etc. to see whether a course’s content meets their needs and interests. This list may not include more recently-added courses, but it gives you an idea of some of the university offerings in this area.

Internships, Research, and Honors Program: A large number of faculty in the College of Agriculture and Life Sciences conduct research directly related to understanding and solving important environmental problems. In addition, many faculty and staff in the College of Agriculture and Life Sciences conduct environmentally-oriented outreach programs. These programs afford students diverse opportunities to obtain research and internship experiences. The following sources provide information about research and internships:


Groups related to ESS that may interest you

Climate Justice Cornell - Focuses on energy and political activism: https://cukyotonow.wordpress.com/

Cornell Center for Wildlife Conservation (CWCC): The CCWC is a “virtual center,” tying together students, faculty, and programs interested in various biophysical and social aspects of wildlife: http://ccwc.cornell.edu

Cornell Computer Reuse Association (CCRA): Collects and refurbishes computers to donate: https://www.sustainablecampus.cornell.edu/initiatives/cornell-computer-reuse-association/
Cornell Environmental Collaborative (ECO): Serves as an umbrella organization for over 40 sustainability focused student clubs on campus:
http://www.sustainablecampus.cornell.edu/initiatives/cornell-environmental-collaborative-eco

Cornell Student Chapter of The Wildlife Society: The objective of this organization is to promote students’ awareness of wildlife ecology and conservation. Club leadership organizes expert speakers on wildlife issues, and arranges trips for interested club members. Past trips included a behind-the-scenes tour of the Syracuse Zoo and a visit to the Cornell Wildlife Rehabilitation Center.

Cornell Student Subunit of The American Fisheries Society acts as a forum for the discussion of fisheries and aquatic science research, provides opportunities to build a professional network. Activities include seminars and outdoor activities. https://www.facebook.com/CornellAmericanFisheriesSociety/

Cornell University Sustainable Design works to design resilient structures in the built environment and realize a future of stability: http://www.cusd.cornell.edu/

CUCompost works to expand composting on campus and reduce the amount of trash sent to landfills: http://www.sustainablecampus.cornell.edu/initiatives/cu-compost

Dilmun Hill Student Farm: A student run organic farm that practices sustainable agriculture and seeks to foster community and empower students through active engagement in ecological agriculture. Dilmun Hill is open to anyone and is a place for experiential learning, group collaboration, research and outreach. http://cuaes.cornell.edu/ag-operations/dilmun-hill/

Epsilon Eta: The Kappa Chapter of Epsilon Eta is a professional and honors sustainability fraternity for individuals of all disciplines. We seek to bridge the gap between environmentalism and professional or business fields. Interested to get involved? epsilonetacornell.org , email: epsilonetacornell@gmail.com

Engineers for a Sustainable World work on sustainable engineering projects: http://www.sustainablecampus.cornell.edu/initiatives/engineers-for-a-sustainable-world-esw

Friends of the Gorge: A student organization dedicated to the stewardship, safety, and enjoyment of Cornell gorges. We go on hikes, lead gorge cleanups, and organize trail maintenance projects throughout the semester. For more information, please contact: friendsofthegorge@cornell.edu.

Leadership for Sustainability focuses on educating community members on sustainable living: http://www.sustainablecampus.cornell.edu/initiatives/student-ecoreps

Lights Off, Cornell! Conserves energy by turning off lights on campus: http://energyandsustainability.fs.cornell.edu/lightoff/index.cfm

Nature RX Cornell: Using interaction with nature to reduce stress and improve health at Cornell University. https://naturerxcornell.wordpress.com/about/

Society for Natural Resource Conservation (SNRC): SNRC is dedicated to protecting and preserving the natural world all around us from a wide variety of threats. We recognize that our environment faces perils on almost every front but particularly concentrate our efforts on issues of human consumption of natural resources. http://www.sustainablecampus.cornell.edu/initiatives/society-for-natural-resources-conservation-snrc

Student Green Guide: Learn how YOU can make a difference on and off campus. One small act = one BIG impact! http://www.sustainablecampus.cornell.edu/initiatives/student-green-guide

Sustainable Cornell: http://www.sustainablecampus.cornell.edu
**Sustainability Hub**: The Sustainability Hub serves to empower student leaders and unite campus organizations to advance a culture of sustainability throughout Cornell.
http://www.sustainablecampus.cornell.edu/initiatives/sustainability-hub

**Take Back the Tap**: Student initiative at Cornell to reduce the supply and demand of bottled water on campus. http://www.sustainablecampus.cornell.edu/initiatives/take-back-the-tap

**The Wildlife Society** provides professional certification for wildlife biologists and managers. Interested in certification? Contact Paul Curtis, pdc1@cornell.edu for more information.

**Learning that goes beyond your education: Places to go and things to do.**

**Get involved**: Public Service Center (PSC): http://www.psc.cornell.edu/
Connects Cornell with community organizations.

**Local Natural Areas:**
Cornell Botanic Gardens: http://www.cornellbotanicgardens.org/
Finger Lakes Land Trust: www.fllt.org
Cornell Laboratory of Ornithology: http://www.birds.cornell.edu/

**Go Take a Hike – Local Parks and Waterfalls**
Allen H. Treman State Marine Park · Buttermilk Falls, Ithaca Falls · Robert H. Treman State Park · Six-Mile Creek · Stewart and Cass Park · Taughannock Falls State Park · Watkins Glen

**Fuertes Observatory**: http://www.cornellastrosociety.org/
Public viewing nights are held every clear Friday night at the Fuertes Observatory on north campus. These viewing nights are run by the Cornell Astronomical Society. Call 255-3557.

**Where is the brain collection?** http://www.news.cornell.edu/stories/May06/Wilder.brains.ssl.html
The Brain Collection is located in Uris Hall, close to the Psychology Department, at 211 Uris Hall.

**Kroch Library**: http://rmc.library.cornell.edu/about/about.html
In the basement of Olin, is a collection of rare manuscripts and books, as well as traveling or loaned collections.

**Collections**: https://www.library.cornell.edu/about/collections

**Rainy Day Activities in the Ithaca Area:**
Cayuga Nature Center www.cayuganaturecenter.org
Ecovillage www.sustainablecampus.cornell.edu/initiatives/ecovillage
History Center www.thehistorycenter.net
Paleontological Research Institution www.priweb.org
Sciencenter www.sciencenter.org

**Other Ithaca Favorites:**
City of Ithaca: www.cityofithaca.org
The Farmers Market: www.ithamacmarket.com
Ithaca Events: events.visitithaca.com
Ithaca Visitor Information: www.visitithaca.com

**Important Phone Numbers:**

911 **Emergency** on or off campus

607-255-1111 **Non-Emergency** – Cornell Police to report a nonemergency on campus incident or for information, general assistance, and lost & found

607-255-5115 **Cornell Health Services** for 24-hour phone consultation
607-254-INFO (4636)  General Information and referral

G08 FERNOW
ESS Undergraduate Lounge. Open whenever Fernow is open. Quiet study space or a place to meet with classmates. Reserved for YOU!