

# College of Natural Resources

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## Introduction to the College

See the bigger picture. Make a better world. When it comes to the world we live in, no detail is too small to be noticed and connected to something bigger.

UC Berkeley's College of Natural Resources (CNR) studies how all aspects of the environment intersect and support each other in order to do more in the world and do it wisely. At CNR, students and faculty study natural and human systems from biological, ecological, economic, and social sciences perspectives. They engage the issues that shape the complex, interconnected world of the 21<sup>st</sup> century, from sustainable food systems to obesity, from water policy to energy policy, and from the far-reaching impacts of climate change to the linkages between the human genome, diet, and disease.

CNR's academic departments are consistently top-ranked in some of the most notable surveys, including the National Research Council, U.S. News and World Report, and several global rankings. Among the active faculty's many eminent honorees are 2 MacArthur "genius" fellows, 3 Nobel laureates affiliated with the 2007 Nobel Prize for the Intergovernmental Panel on Climate Change, and 6 UC Berkeley Distinguished Teaching Award winners.

CNR's students are award winners as well. Three recent winners of the University Medal - Berkeley's highest honor for a graduating senior - have had one of their majors or minors located in CNR!

Providing a small-college experience at the world's greatest public university, CNR combines hands-on experience with a rigorous education. The College give students a solid foundation and big-picture perspective that informs and inspires them during their degree program and after they leave the campus.

Explore majors and minors ([http://guide.berkeley.edu/archive/2016-17/undergraduate/degree-programs/?filter\\_5=true](http://guide.berkeley.edu/archive/2016-17/undergraduate/degree-programs/?filter_5=true)) available through the College of Natural Resources.

## University of California Requirements

Entry Level Writing (<http://guide.berkeley.edu/archive/2016-17/undergraduate/colleges-schools/natural-resources/entry-level-writing-requirement>)

All students who will enter the University of California as freshmen must demonstrate their command of the English language by fulfilling the Entry Level Writing Requirement. Fulfillment of this requirement is also a prerequisite to enrollment in all reading and composition courses at UC Berkeley.

American History and American Institutions (<http://guide.berkeley.edu/archive/2016-17/undergraduate/colleges-schools/natural-resources/american-history-institutions-requirement>)

The American History and Institutions requirements are based on the principle that a U.S. resident graduated from an American university should have an understanding of the history and governmental institutions of the United States.

## Campus Requirement

American Cultures (<http://guide.berkeley.edu/archive/2016-17/undergraduate/colleges-schools/natural-resources/american-cultures-requirement>)

American Cultures (AC) is the one requirement that all undergraduate students at UC Berkeley need to take and pass in order to graduate. The requirement offers an exciting intellectual environment centered on the study of race, ethnicity and culture in the United States. AC courses offer students opportunities to be part of research-led, highly accomplished teaching environments, grappling with the complexity of American Culture.

Reading and Composition (<http://guide.berkeley.edu/undergraduate/colleges-schools/natural-resources/reading-composition-requirement>)

In order to provide a solid foundation in reading, writing and critical thinking all majors in the College require two semesters of lower division work in composition. Students must complete a first-level reading and composition course by the end of their second semester and a second-level course by the end of their fourth semester.

Foreign Language (<http://guide.berkeley.edu/undergraduate/colleges-schools/natural-resources/foreign-language-requirement>) : **EEP Majors only**

The Foreign Language requirement is only required by Environmental Economics and Policy (EEP) majors. It may be satisfied by demonstrating proficiency in reading comprehension, writing, and conversation in a foreign language equivalent to the second semester college level, either by passing an exam or by completing approved course work.

Quantitative Reasoning (<http://guide.berkeley.edu/undergraduate/colleges-schools/natural-resources/quantitative-reasoning-requirement>) : **EEP Majors only**

The Quantitative Reasoning requirement is only required by Environmental Economics and Policy (EEP) majors. The requirement may be satisfied by exam or by taking an approved course.

## Undergraduate Breadth

Undergraduate breadth provide Berkeley students with a rich and varied educational experience outside of their major program. Breadth courses are built into CNR major requirements. The EEP major is the only CNR major that requires the entire 7 course breadth. As the foundation of a liberal arts education, breadth courses give students a view into the intellectual life of the University while introducing them to a multitude of perspectives and approaches to research and scholarship. Engaging students in new disciplines and with peers from other majors, the breadth experience strengthens interdisciplinary connections and context that prepares Berkeley graduates to understand and solve the complex issues of their day.

## High School Exam Credit

CNR students may apply high school exam credit (Advanced Placement, International Baccalaureate, A-Level Exam) towards many College and Major Requirements. See AP Exam Equivalency Chart and Higher Level IB Exam Equivalency Chart in the CNR Student Handbook (<https://nature.berkeley.edu/handbook>) for more information.

## Units Requirements

Students must complete at least 120 semester units of courses subject to certain guidelines:

- At least 36 units must be upper division courses, including a minimum of 15 units of upper division courses in the College of Natural Resources.
- A maximum of 16 units of Special Studies coursework (courses numbered 97, 98, 99, 197, 198, or 199) is allowed towards the 120 units; a maximum of four is allowed in a given semester.
- A maximum of 4 units of Physical Education from any school attended will count towards the 120 units.
- Students may receive unit credit for courses graded P (including P/NP units taken through EAP) up to a limit of one-third of the total units taken and passed on the Berkeley campus at the time of graduation.

## Semester Unit Minimum

All CNR students must enroll in at least 13 units each fall and spring semester.

## Semester Unit Maximum

To request permission to take more than 19.5 units in a semester, please see the major adviser.

## Semester Limit

Students admitted as freshmen must graduate within 8 fall/spring semesters at UC Berkeley. Students admitted as transfer students must graduate within 4 fall/spring semesters at UC Berkeley. Students who go on EAP and UCDC can petition for additional semesters. Summer session, UC Extension and non-UC study abroad programs do not count towards this semester limit. Students approved for double majors or simultaneous degrees in two colleges may be granted an additional semester. CNR does not limit the number of total units a student can accrue.

## Senior Residence Requirement

After reaching senior status (90 semester units earned), students must complete at least 24 of the remaining 30 units in at least two semesters in residence at the College of Natural Resources. To count as residence, a semester must consist of at least four passed units. Inter-campus Visitor, Education Abroad Program, UC Berkeley Washington Program, and UC Berkeley Extension units do not count toward this requirement.

Students may use Summer Session to satisfy one semester of the Senior Residence Requirement, provided that four units of coursework are completed.

## Modified Senior Residence Requirement

Participants in the UC Education Abroad Program (UCEAP) or the UC Berkeley Washington Program may meet a modified Senior Residence Requirement by completing 24 of their final 60 semester units in residence (excluding UCEAP). At least 12 of these 24 units must be completed after senior status is reached.

Most students automatically fulfill the residence requirement by attending classes here for four years. In general, there is no need to be concerned about this requirement, unless students go abroad for a semester or year or want to take courses at another institution or through University Extension during their senior year. In these cases, students should make

an appointment to see an adviser to determine how they can meet the Senior Residence Requirement.

## Grade Requirements

- A 2.0 UC GPA is required for graduation.
- A 2.0 average in all upper division courses required of the major program is required for graduation.

## See the Bigger Picture. Make a Better World.

At UC Berkeley's College of Natural Resources (CNR), we study natural and human systems from biological, ecological, economic, and social-science perspectives. We engage the issues that shape the complex, inter-connected world of the 21st century, from sustainable food systems to obesity, from water policy to energy economics, and from the far-reaching impacts of climate change to the linkages between the human genome, diet, and disease. Providing a small-college experience at the world's greatest public university, CNR combines hands-on experience with a rigorous education. We give students a solid foundation and big-picture perspective that informs and inspires them after they leave our campus with a Bachelor of Science.

The College of Natural Resources admits students as freshmen or as junior transfer students. The College also accepts current UC Berkeley students eligible to change into CNR. All students—current and prospective—interested in studying at CNR should consult with their intended major adviser (<https://nature.berkeley.edu/advising/meet-cnr-advisors>) or the CNR Peer Advisers (<https://nature.berkeley.edu/advising/peer-advising>). Prospective applicants (<https://nature.berkeley.edu/prospective-students>) are also encouraged to contact the CNR Student Ambassador Leaders (<https://nature.berkeley.edu/studentambassadors>) for their perspectives on life as a CNR student.

- Check out CNR's prospective student page (<https://nature.berkeley.edu/prospective-students>) to learn more about the majors and opportunities available.

## Top 10 Reasons to Join CNR (<https://nature.berkeley.edu/advising/top-ten-reasons-to-choose-cnr>)

When you apply to UC Berkeley as either a freshman or transfer student, you will be required to select a college (e.g., College of Natural Resources) in which to enroll, and you may also indicate a major at that time. Freshman applicants who want more time to decide which of our nine majors (<http://nature.berkeley.edu/node/144>) can select the College of Natural Resources' "Undeclared option." Declaring your major will not give you any special advantage in terms of admissions. All students who apply to CNR are evaluated based on their application and not on the particular major they selected. The benefit of applying directly to a CNR major is that if you are admitted and accept the offer of admission, you will work with the same adviser from your arrival to campus to graduation. Don't worry, students admitted under a particular major still have the option of changing majors if desired.

## Advice for Freshman Applicants

Undergraduate admission is directed by Cal's Office of Undergraduate Admissions (<http://students.berkeley.edu/admissions>) based on campus-wide admission criteria. The College of Natural Resources itself does not review the files for freshman admission so it is important that freshman applicants follow the guidelines provided by Admissions. For

the best guidance on Berkeley Admissions, please review the following information carefully:

- Prospective Freshman FAQs (<http://students.berkeley.edu/admissions/general.asp?id=2107&navid=N>)
- Writing Your Personal Statement ([http://students.berkeley.edu/files/Admissions/12626\\_4.statement.pdf](http://students.berkeley.edu/files/Admissions/12626_4.statement.pdf))
- Information for International Freshman Applicants (<http://admissions.berkeley.edu/internationalstudents>)
- University of California: Freshman Admission Information (<http://admission.universityofcalifornia.edu/freshman>)

## Advice for Transfer Applicants

The College of Natural Resources welcomes transfer applicants to each of its nine majors. Priority for admission is given to students with excellent preparation for a major, as we do not accept students transferring with undeclared status. A good first step is to review requirements for the CNR major (<https://nature.berkeley.edu/advising/transfer-applicants>) to which you would like to apply and look at ASSIST (<http://www.assist.org>) to see if you will satisfy all prerequisites by the spring semester prior to your admission year. For example, applicants for Fall 2017 need to complete all prerequisites outlined in ASSIST by end of Spring 2017.

As you prepare for transfer admission, you must complete the lower division articulated courses for the particular CNR major in which you are interested. The ASSIST website lists all of CNR's prerequisites and the equivalent California Community College transferable course that satisfies them. ASSIST also includes courses from some UC and CSU schools, and a handful of out of state institutions. If you earned credit at a college or university not listed in ASSIST, those courses will be evaluated when you apply.

Students wishing to transfer to CNR may also contact the undergraduate adviser ([https://nature.berkeley.edu/site/contact\\_advisor.php](https://nature.berkeley.edu/site/contact_advisor.php)) of the major they are interested in to help determine whether they have satisfied the appropriate prerequisite courses requirements. Out of state applicants are especially encouraged to consult with major advisers to make sure the courses they have taken will articulate to the CNR prerequisites. Advisers can also tell you about the kinds of opportunities offered in each major, and help you make a decision about which major is right for you.

## Transfer Admissions Criteria

If you are applying to the College of Natural Resources as a transfer student, you must apply directly to one of our undergraduate majors. Transfer applicants will be evaluated based on the strength of their academic preparation with focus on full completion of prerequisites by the spring semester prior to admission. In addition, grade point average in the required courses, cumulative GPA, and total units completed are taken into factored into decisions. Transfer students apply through Cal's Office of Undergraduate Admissions (<http://students.berkeley.edu/admissions>) but CNR faculty and staff from your intended major will review your application as well. As a result, special attention is paid to applicants' personal statements and supplementary information. Students applying to CNR programs should have a solid understanding of the major.

## Important Information for Transfer Applicants

Students who do not complete the lower division courses for their intended major are unlikely to be offered admission. Students who need to complete key lower division courses (e.g., English, chemistry, calculus, or biology) when they begin at Berkeley are not considered for admission

and should wait to apply for the following year. Admitted students who have not met minimum requirements by the end of the spring prior to their admit term are rarely considered for extensions to complete coursework in summer and may have their admission cancelled. It is imperative for transfers to fulfill lower division course requirements prior to enrolling at Berkeley.

## IGETC (Intersegmental General Education Transfer Curriculum)

IGETC does not fully satisfy lower division requirements for all CNR majors, nor is it used as an admissions criterion. For some majors, IGETC does satisfy certain breadth requirements. You may find that you have to take fewer courses overall if you just focus on fulfilling a specific major's lower division requirements. For information on the requirements, please see ASSIST (<http://www.assist.org>) and the list of specific major requirements (<http://nature.berkeley.edu/advising/choosing-major>) .

## Additional Resources for Prospective Transfer Students

- Prospective Transfer Student FAQs (<http://students.berkeley.edu/admissions/general.asp?id=2111&navid=32>)
- University of California: Transfer Information (<http://www.ucop.edu/pathways/infoctr/at/welcome.html>)
- ASSIST (UC transferable course information) (<http://www.assist.org>)
- UC Berkeley Transfer Student Center (<http://transfers.berkeley.edu>)
- Information for International Transfer Applicants (<http://admissions.berkeley.edu/internationalstudents>)
- CNR Undergraduate Handbook (<http://nature.berkeley.edu/sites/default/files/site/oisa/2015-16%20Undergraduate%20Handbook.pdf>)

The Office of Instruction and Student Affairs (OISA), located in 260 Mulford Hall, is the center for all academic related matters within the College of Natural Resources (CNR). Professional academic advisers partner with students to identify campus and community resources to support student success. Services offered by advisers range from major exploration, short-term and long-term program planning to enrichment opportunities, career exploration and personal goals and discovery. Students are highly encouraged to actively engage their academic advisers who work in 260 Mulford and are experts in the College, major requirements, and policies.

## Advising Staff

Advisers are dedicated to meeting the needs of students and respect each student as a unique individual. Advisers also connect students to faculty to make the most of their undergraduate experience. All CNR students are assigned advisers based on their majors and meets with the adviser at least once a semester to plan the upcoming semester's class schedule. Meet the major advisers and find their contact information on the CNR Meet Your Adviser (<http://nature.berkeley.edu/advising/meet-cnr-advisors>) website.

## Faculty Advisers

Faculty advisers are CNR faculty who advise students about a particular major, courses, research, and other academic issues. Within each major, there is a head faculty adviser. Depending on departmental requirements, students are often assigned a faculty adviser when they declare a major. Students are encouraged to see their faculty adviser for guidance on achieving academic and career goals, questions about the content of courses and research in their respective field, and plans to pursue graduate study. Faculty advisers are not aware of all college

policy and campus requirements, so students should rely on their major adviser for this sort of advising.

## Peer Advising Leadership (PAL) Program

The work of the CNR Peer Advisers (<https://nature.berkeley.edu/advising/peer-advising>) is integral to the success of their fellow CNR undergraduates. Peer advisers are trained in understanding CNR and University requirements, policies, and procedures. They help with CNR recruitment and enrichment programs, participate in the CNR Welcome Day Program, Cal Day, and CalSO, and assist CNR Student Affairs staff with various other outreach programs. They also design and manage their own college-wide advising projects. Most importantly, they introduce their fellow students to a wide variety of campus services and resources.

## Student Ambassador Leadership (SAL) Program

The Student Ambassador Leader (<https://nature.berkeley.edu/studentambassadors>) (SAL) program aims to raise awareness and knowledge of the programs that CNR offers for prospective and newly admitted students. Our goal is to offer peer advising to help students through the admission process and transition into the university and especially into the CNR community. By doing so, Ambassadors hope to guide these students towards opportunities that align with their passions and allow them to succeed.

## Undergraduate Research

At CNR, the goal is for every undergraduate to get involved in some aspect of research before graduating from UC Berkeley. Through research experience, students can expect mentorship from professors and hands-on laboratory or field research skills that will complement what they learn in the classroom. Although the campus offers research opportunities through Independent Study units (99/199) and the Undergraduate Research Apprenticeship Program (URAP), the College of Natural Resources offers numerous opportunities for students to design an independent research project or to contribute to an ongoing research project with faculty. Here are a few programs unique to CNR that support Undergraduate Research:

### Sponsored Projects for Undergraduate Research (SPUR)

The CNR Sponsored Projects for Undergraduate Research Program (SPUR) encourages faculty and undergraduate students in CNR to collaborate on research projects by providing a grant to support their joint project. The funding for this program is generously donated by CNR alumni. Participating in SPUR is an excellent way to gain experience in research and build relationships with faculty. Research opportunities are available at the beginning of each semester. Visit the Office of Instruction and Student Affairs or the SPUR website (<https://nature.berkeley.edu/undergraduate-research/spur>) for more information.

### Travel Grants

Travel grants are also available three times per year through CNR's Office of Instruction & Student Affairs to help cover the costs of travel and conference attendance associated with undergraduate research. Students who apply for SPUR funding often submit an accompanying travel grant application (<https://nature.berkeley.edu/undergraduate-research/travel-grants/application>). This program is made possible through the generous donations from CNR alumni.

## The CNR Honors Program

The College of Natural Resources Honors Program which celebrated its 20th year in 2015-2016 is designed to support undergraduate students interested in developing, executing, and evaluating a year-long independent research project under the guidance of a CNR faculty mentor. Students who successfully complete the CNR Honors Program will receive a notation of honors in their major. The CNR Honors Symposium, held once each semester, gives all honors students the opportunity to present their research to fellow students, faculty, deans, staff, friends, and family. For more information, visit Honors Program website (<https://nature.berkeley.edu/advising/honors-program>).

## CNR Undergraduate Research Poster Sessions

The Office of Instruction and Student Affairs sponsors a poster session each semester where CNR undergraduates present their research. Poster sessions give students the opportunity to explain and showcase their independent projects to a large audience. Other benefits of participating in a poster session include gaining communication and presentation skills and learning to summarize research, which is an integral part of scholarship. Students will receive recognition for their hard work on a research project and will have the chance to discuss their project with others who share their interests. Every participant is rewarded with a Certificate of Participation, select presenters are also awarded prizes, and CNR covers the cost of poster printing for all students within the College. The experience which students often document on their resumes is excellent preparation for graduate school and future career.

## Study Abroad and Field Programs

CNR encourages students to add an international dimension to their education by participating in a study abroad program. Study abroad provides an opportunity to expand academic and cultural experiences while staying on track to complete major requirements. With proper academic planning, students can have the experience of a lifetime with no loss of time in completing their degrees.

There are over 100 different program options in more than 40 different countries offered by the UC Education Abroad Program. Students may be able to count some of the courses abroad towards their major requirements. The Berkeley Study Abroad (<http://studyabroad.berkeley.edu>) office, located in 160 Stephens Hall, has connections to programs around the world specific to the social, environmental, and biological sciences. In addition, CNR sponsors the following two off-campus programs designed for undergraduates:

### Biology and Geomorphology of Tropical Islands

The Richard B. Gump South Pacific Research Station is located on Moorea Island in French Polynesia. Students attending classes on Moorea study subjects ranging from biology to archaeology with UC Berkeley professors. Studying for a semester at Moorea adds great field experience to the undergraduate career. This program is only offered in fall semesters. Information is available online (<http://ib.berkeley.edu/moorea/Information.html>).

### Forestry Summer Field Program

The UC Berkeley Forestry Summer Field Program is offered by CNR's Department of Environmental Science, Policy, and Management, and is an eight-week summer program consisting of four courses. The camp is located in the California Sierra Nevada. The overall goal of the Summer Field Program is to provide an introduction to the scientific and professional dimensions of forest and wildland resource management.



Students participating in the program learn about ecology, forest, range and wildlife management, measurements, forest operations, and products. At the end of the program, students will have a broad, working knowledge of concepts and techniques used by wildland resource managers. The experience of studying these topics in a field setting inevitably enriches students' subsequent on-campus academic studies. Information is available online (<https://forestrycamp.berkeley.edu>) .

majors. Learn about green living, give back to the environment, grow as leaders, and form friendships that can last a lifetime.

## Student Resources

### CNR Student Resource Center

The Student Resource Center (<https://nature.berkeley.edu/advising/office-instruction-student-affairs>) , located in 260 Mulford Hall, is a physical hub designed to foster academic, educational, and social activity and to provide a supportive environment for daily student life. By providing a wide range of materials pertaining to major/minor and departmental program information, jobs and internships, and graduate programs, and also serving as a central location to hold various programs that support CNR's standards of education, the Resource Center exists to build community for students, staff, and faculty alike.

## Facilities and Amenities

### Computer Lab

- **Computing:** Full PC lab with internet capability and standard software: MSOffice, Adobe Acrobat Reader, standard web browsers.
- **AirBears:** The Resource Center is wired for AirBears.
- **Printing:** Printing is free. CNR undergraduate students are allowed 10 pages of free printing every day. Student accounts are automatically renewed at the beginning of each semester. Please see the front desk assistant in 260 Mulford Hall to set up a printing account if the account does not work.

### Study Space and Lounge Area

- **The lounge area:** Comfy couches for everyone's enjoyment.
- **Study tables and desks:** Huge study tables and chairs dominate half the center, offering a large amount of work space.

## Course Preparation

*Chem P:* In collaboration with the Student Learning Center (SLC) (<http://slc.berkeley.edu>) , students in CNR are able to receive two units of credit for taking Chem P. Chem P is a course taught by the SLC in the fall semester designed to prepare students to take CHEM 1A General Chemistry the following semester. A number of incoming freshmen choose to take Chem P as a refresher course in their first semester.

*Study Group for CHEM 1A General Chemistry and CHEM 3A Chemical Structure and Reactivity :* In collaboration with the SLC, specific study groups have been designed for CNR students through the SLC that places a special emphasis on choosing examples and problems that both illustrate the material being learned in CHEM 1A General Chemistry and CHEM 3A Chemical Structure and Reactivity and how the topics are applicable to CNR majors.

## Living Learning Community

The Global Environment Theme House (<http://themeprogams.berkeley.edu/geth.html>) (GETH) brings together students and faculty to explore issues around environmental change, natural resources, sustainable environments, and environmental leadership. This is one of many housing options at Berkeley and open to students from all