

# Environmental Health Sciences

---

Academic degree programs in the Graduate Group in Environmental Health Sciences (EHS) are recommended for individuals with clear research interests of an interdisciplinary nature. Applicants may apply to the MS program or the PhD program. EHS is administered within the Division of Environmental Health of the School of Public Health. Although students receive their academic degrees from the graduate group (under the jurisdiction of the Graduate Division of the UC Berkeley campus), students are also affiliated with and apply to the School of Public Health.

For a complete list of faculty please visit our website (<https://publichealth.berkeley.edu/academics/environmental-health-sciences/>).

## Admission to the University

### Minimum Requirements for Admission

The following minimum requirements apply to all graduate programs and will be verified by the Graduate Division:

1. A bachelor's degree or recognized equivalent from an accredited institution;
2. A grade point average of B or better (3.0);
3. If the applicant has completed a basic degree from a country or political entity (e.g., Quebec) where English is not the official language, adequate proficiency in English to do graduate work, as evidenced by a TOEFL score of at least 90 on the iBT test, 570 on the paper-and-pencil test, or an IELTS Band score of at least 7 on a 9-point scale (note that individual programs may set higher levels for any of these); and
4. Sufficient undergraduate training to do graduate work in the given field.

### Applicants Who Already Hold a Graduate Degree

The Graduate Council views academic degrees not as vocational training certificates, but as evidence of broad training in research methods, independent study, and articulation of learning. Therefore, applicants who already have academic graduate degrees should be able to pursue new subject matter at an advanced level without the need to enroll in a related or similar graduate program.

Programs may consider students for an additional academic master's or professional master's degree only if the additional degree is in a distinctly different field.

Applicants admitted to a doctoral program that requires a master's degree to be earned at Berkeley as a prerequisite (even though the applicant already has a master's degree from another institution in the same or a closely allied field of study) will be permitted to undertake the second master's degree, despite the overlap in field.

The Graduate Division will admit students for a second doctoral degree only if they meet the following guidelines:

1. Applicants with doctoral degrees may be admitted for an additional doctoral degree only if that degree program is in a general area of knowledge distinctly different from the field in which they earned their original degree. For example, a physics PhD could be admitted to a doctoral degree program in music or history; however, a student with

a doctoral degree in mathematics would not be permitted to add a PhD in statistics.

2. Applicants who hold the PhD degree may be admitted to a professional doctorate or professional master's degree program if there is no duplication of training involved.

Applicants may apply only to one single degree program or one concurrent degree program per admission cycle.

### Required Documents for Applications

1. **Transcripts:** Applicants may upload *unofficial* transcripts with your application for the departmental initial review. Unofficial transcripts must contain specific information including the name of the applicant, name of the school, all courses, grades, units, & degree conferral (if applicable).
2. **Letters of recommendation:** Applicants may request online letters of recommendation through the online application system. Hard copies of recommendation letters must be sent directly to the program, by the recommender, not the Graduate Admissions.
3. **Evidence of English language proficiency:** All applicants who have completed a basic degree from a country or political entity in which the official language is not English are required to submit official evidence of English language proficiency. This applies to institutions from Bangladesh, Burma, Nepal, India, Pakistan, Latin America, the Middle East, the People's Republic of China, Taiwan, Japan, Korea, Southeast Asia, most European countries, and Quebec (Canada). However, applicants who, at the time of application, have already completed at least one year of full-time academic course work with grades of B or better at a US university may submit an official transcript from the US university to fulfill this requirement. The following courses will not fulfill this requirement:
  - courses in English as a Second Language,
  - courses conducted in a language other than English,
  - courses that will be completed after the application is submitted, and
  - courses of a non-academic nature.

Applicants who have previously applied to Berkeley must also submit new test scores that meet the current minimum requirement from one of the standardized tests. Official TOEFL score reports must be sent directly from Educational Test Services (ETS). The institution code for Berkeley is 4833 for Graduate Organizations. Official IELTS score reports must be sent electronically from the testing center to University of California, Berkeley, Graduate Division, Sproul Hall, Rm 318 MC 5900, Berkeley, CA 94720. TOEFL and IELTS score reports are only valid for two years prior to beginning the graduate program at UC Berkeley. Note: score reports can not expire before the month of June.

### Where to Apply

Visit the Berkeley Graduate Division application page (<http://grad.berkeley.edu/admissions/apply/>).

### Admission to the Program

Common undergraduate majors for admitted applicants: chemistry, biology, microbiology, molecular biology, nutrition, ecology, public health and environmental studies. Common work experience for admitted applicants: Work experience is not required for admission, but

successful applicants in past years have worked as lab technicians, student researchers, research assistants, community organizers, study coordinators and post-graduate fellows, as well as for the Peace Corps. Ideally, applicants should have completed one undergraduate course in chemistry and one undergraduate course in biology. An undergraduate course in mathematics (e.g., calculus, linear algebra or statistics) is also desirable.

For the doctorate degree applicants should hold an MS or MPH in a related field, as well as display a clear research orientation and firm knowledge of research techniques.

In addition to the UC Berkeley application, students must also submit an additional application (<https://publichealth.berkeley.edu/admissions/>) to the School of Public Health.

## Curriculum

### Environmental Health Sciences MS - Required Courses

PB HLTH 270	Introduction to Environmental Health Sciences	3
PB HLTH 270A	Exposure Assessment and Control	3
NUSCTX 110	Toxicology	4
PB HLTH 220C	Health Risk Assessment	3
PB HLTH 250A	Epidemiologic Methods I (* Students who have already taken an introductory course in epidemiology may substitute 250B or W250B, Epidemiology Methods II)	3
PB HLTH 142	Introduction to Probability and Statistics in Biology and Public Health	4
PB HLTH W200	Foundations of Public Health Practice (Students who have an MPH are exempt from the requirement)	1

### Biostatistics - Required Courses

PB HLTH 241	Intermediate Biostatistics for Public Health	4
PB HLTH 245	Introduction to Multivariate Statistics	4

Other courses can be substituted with approval.

### Environmental Health Sciences - Thesis Units

PB HLTH 299	Independent Research (2nd year at minimum)	3-6 units, with thesis advisor permission, to be enrolled in during the last year
-------------	--	---

### ELECTIVE COURSES

Remaining units are to be chosen from upper division or graduate courses from courses in a range of closely related fields. A recommended list will be provided to students.

- No internship/fieldwork/practicum but fieldwork common
- Capstone/Master's Project (Plan II)

## Global Health and Environment MS: Course Requirements

### environmental health sciences

#### Required

PB HLTH 270	Introduction to Environmental Health Sciences	3
PB HLTH W200	Foundations of Public Health Practice ( Students who already have an MPH are exempt from this requirement)	1

#### Choose two of the following:

PB HLTH 270A	Exposure Assessment and Control	3
PB HLTH 273	Environmental Determinants of Infectious Disease	3
NUSCTX 110	Toxicology	4
PB HLTH W272A	Introduction to Geographic Information Systems for Public Health (Courses offered in other departments can fulfill GIS credit (e.e., CRP 204C))	3
PB HLTH 220C	Health Risk Assessment (pre-requisite: NUSCTX 110)	3
PB HLTH 271G	Health Implications of Climate Change	3

### biostatistics and epidemiology

At least three courses are required, including both of the following:

PB HLTH 142	Introduction to Probability and Statistics in Biology and Public Health	4
PB HLTH 250A	Epidemiologic Methods I (Students who have already taken an introductory course in epidemiology may substitute PB HLTH 250B or PB HLTH W250B, Epidemiology Methods II)	3-4

#### Select one of the following:

PB HLTH 241	Intermediate Biostatistics for Public Health	4
PB HLTH 245	Introduction to Multivariate Statistics	4
PB HLTH 254	Occupational and Environmental Epidemiology	3

### Global Health and Environment THESIS UNITS:

PB HLTH 299	Independent Research ((6 units maximum))	3-6
-------------	--	-----

### elective courses

Remaining units are to be chosen from upper division or graduate courses in areas and from courses in a range of closely related fields. A recommended list will be provided to students.

- No internship/fieldwork/practicum but fieldwork common
- Capstone/Master's Project (Plan II)

## Normative Time Requirements

### Normative Time to Advancement: 4 Semesters

The normal time from entry into the doctoral program to advancement to candidacy is four semesters although it is generally somewhat less for students who complete a master's degree in Environmental Health at Berkeley.

## Total Normative Time: 10 Semesters

### Time to Advancement

#### Curriculum

Although there are no formal course requirements for the doctoral degree, students are expected to be well-versed in the material covered in the following courses at the time of the qualifying examination. The only exceptions are: 1) PB HLTH 293 Doctoral Seminar once a year and 2) if the doctoral degree candidate does not have an MPH, they are required to take PB HLTH W200 Foundations of Public Health Practice .

NUSCTX 110	Toxicology	4
PB HLTH 241	Intermediate Biostatistics for Public Health	4
PB HLTH 220C	Health Risk Assessment	3
PB HLTH 250B	Epidemiologic Methods II <sup>1</sup>	4
PB HLTH 270	Introduction to Environmental Health Sciences	3
PB HLTH 270A	Exposure Assessment and Control	3
PB HLTH 271E	Science and Policy for Environment and Health	3
PB HLTH W200	Foundations of Public Health Practice <sup>2</sup>	1
PB HLTH 293	Doctoral Seminar	1-4

<sup>1</sup> For the Biostatistics and Epidemiology requirements, any 200 level courses will satisfy the requirements

<sup>2</sup> Students who already have an MPH are exempt from this requirement.

#### Prospectus

A preliminary examination including a research prospectus must be successfully completed prior to the qualifying examination.

### Time in Candidacy

#### Dissertation

Dissertation required.