

Infectious Diseases and Immunity

The Graduate Group in Infectious Diseases and Immunity provides an opportunity for the study of the biology of infectious agents, their interaction with human and other hosts, and their relationship with the environment. The PhD program is unique in its emphasis on integrated multidisciplinary training in host-pathogen environmental interactions. Important areas of inquiry include the biology of host-pathogen interactions, molecular and cellular aspects of pathogenesis, the ecology and evolution of disease agents, environmental factors in transmission, intermediate hosts and vectors, the biology of surveillance and epidemiological analysis, vaccine and drug development, and public health practices for disease prevention and control.

The objective of this program is to provide students with research-oriented pursuits that will train them to design and implement independent investigations. The goal is to promote health by the integration of basic research and applied technologies for the development of new approaches for the diagnosis, treatment, prevention, and control of infectious disease in humans.

Students matriculating through this program will acquire expertise in fundamental infectious disease research and thus are well prepared for careers in academia, governmental agencies, and biotechnology. For admission requirements and application process, please visit both the IDI website (<http://idi.berkeley.edu/>) and the Grad Division website (<https://grad.berkeley.edu/admissions/apply/>) for details. Application deadline: December 1st for the following year's fall semester admission.

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/>).

Curriculum

Courses Required

Group I: Infectious Diseases (2 courses):

PB HLTH 260A	Principles of Infectious Diseases	4
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And one of the following:

PB HLTH 262	Molecular and Cellular Basis of Bacterial Pathogenesis	3
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PB HLTH 265	Molecular Parasitology	3
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PB HLTH 266B	Zoonotic Diseases	2
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Group II: Immunology (1 course): Student should take PH 263 as far as possible and not both PH 263 and MCB 250

PB HLTH 263	Public Health Immunology	3-4
	or MCELLBI 250 Advanced Immunology	

Group III: Biostatistics (1 course):

PB HLTH 142	Introduction to Probability and Statistics in Biology and Public Health	4
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or PB HLTH 245 Introduction to Multivariate Statistics

Group IV: Epidemiology (2 courses)

PB HLTH 250A	Epidemiologic Methods I	3
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PB HLTH 253B	Epidemiology and Control of Infectious Diseases ¹	3
	or PB HLTH 26 Molecular Epidemiology of Infectious Diseases	

Group V: Research (2 courses)

PB HLTH 293	Doctoral Seminar (IDI Doctoral Seminar)	1
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PB HLTH 293	Doctoral Seminar (Doctoral Research Seminar)	2
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In addition to the required courses listed above, students will elect several additional courses appropriate to the student's area of research interest with the guidance of the Graduate Advisor and other faculty.

Examples for electives (also includes courses listed above):

PB HLTH W25	(Epidemiologic Methods II [4])
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PB HLTH 260F	Infectious Disease Research in Developing Countries [2]
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PB HLTH 257	Outbreak Investigation [2]
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MCELLBI 210	Advanced Biochemistry and Molecular Biology: Macromolecular Reactions and the Cell [4]
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MCELLBI 230	Advanced Cell and Developmental Biology [4]
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¹ IDI PhD students without an epidemiology background are strongly encouraged to read more about Epidemiology and/or take PB HLTH 250A prior to taking PB HLTH 253B.

For a full list of IDI faculty, please visit the IDI website (<http://idi.berkeley.edu/#faculty>).