

# Public Health

## Bachelor of Arts (BA)

The Berkeley Public Health (a graduate school) offers an undergraduate major through the College of Letters & Science (<http://ls.berkeley.edu/>).

The goal of the major is to provide students with an understanding of epidemiology, biostatistics, environmental health, health behavior, and health policy. These areas of emphasis range across the spectrum of natural science to social science.

Public health is the interdisciplinary science of preventing disease and injury to improve the health of communities and populations. Public health professionals work to identify solutions to address complex issues as wide ranging as air pollution, chronic disease, gun violence, infectious diseases, tobacco control and mental health.

The Berkeley Public Health offers a major (<https://publichealth.berkeley.edu/academics/undergraduate/>) and summer minor (<https://publichealth.berkeley.edu/academics/undergraduate/global-public-health/>). The curriculum prepares students to become changemakers in public health for a more equitable and just world.

## Declaring the Major

Although the major remains capped (impacted), the department encourages all qualified students to apply. To qualify, students must have completed the prerequisites in math, biology, and the social sciences.

### Prerequisites and Application

Students should apply to the public health major after completion of the lower division prerequisites. Non-transfer students must apply to the major by the end of their fifth semester in attendance at UC Berkeley. Transfer students must apply by the end of their first semester in attendance at UC Berkeley.

After completing the prerequisites (<https://publichealth.berkeley.edu/admissions/undergraduate/requirements/>), students should submit an application, which includes the following:

1. A review of an applicant's academic preparation (Coursework and GPA)
2. Essays (Statement of Purpose and Personal History Statement)
3. Resume or CV

Beginning Fall 2023, first-year students admitted to UC Berkeley who did not select the Public Health major may need to follow different application requirements. For the most up-to-date information, please review L&S High-Demand Majors for First-Year Students (<https://ls.berkeley.edu/ls-high-demand-majors-first-year-students/>) or reach out to the academic advisors.

For more information, please see the Berkeley Public Health website (<https://publichealth.berkeley.edu/admissions/undergraduate/application-instructions/>).

### Preparation for an Alternate Major

Students interested in the public health major should take the necessary steps to prepare for an alternate major in case they are not admitted into the Public Health major. While the department will do its best to bring in all qualified students, there is no guarantee that any one particular

student will be admitted into the major. Public health demands everyone's attention — there are myriad undergraduate majors at UC Berkeley that will help students prepare to work in this field. All students interested in the major, or the field of public health in general, are encouraged to consult with an academic adviser.

## Summer Minor or Certificate Program

Public health seeks to improve human health through the development and application of knowledge that prevents disease, protects the public from harm, and promotes health throughout the state, the nation, and the world. Under the Global Public Health summer minor or certificate (<https://publichealth.berkeley.edu/academics/undergraduate/global-public-health/>), students will develop and apply knowledge from multiple disciplines for the promotion and protection of the health of the human population, giving due consideration to principles of human rights and many cultural perspectives in our multicultural country and world.

The summer minor or certificate can serve as a precursor to further study in public health, other health professions, or any fields in which the health of persons and populations is a relevant concern. The summer minor can augment and enhance many different undergraduate bachelor degree programs and prepare students for professional and academic careers. Please note: the Summer Minor is only available to Berkeley students, and the Summer Certificate is only available to non-Berkeley students.

In addition to the University, campus, and college requirements, listed on the College Requirements tab, students must fulfill requirements specific to their major program.

## General Guidelines

1. All courses taken to fulfill the major requirements below must be taken for graded credit, other than courses listed which are offered on a Pass/No Pass basis only. Other exceptions to this requirement are noted as applicable.
2. No more than two upper division courses may be used to simultaneously fulfill requirements for a student's double major or simultaneous degree. No more than one upper division course may be used to simultaneously fulfill requirements for a student's minor.
3. A minimum grade point average (GPA) of 2.0 must be maintained in both upper and lower division courses used to fulfill the major requirements.

**For information regarding residence requirements and unit requirements, please see the College Requirements tab.**

## Lower Division Prerequisites

All prerequisite courses must be completed before declaring the major with a minimum grade of C- or above.

Public Health accepts Advanced Placement (AP) Exam and International Baccalaureate (IB) Exam units for the Math and Social Science prerequisites. If students have taken both an AP exam or IB exam and the equivalent college-level course, we will only take the grade from the college-level course into consideration for admissions purposes.

Additional requirements may apply. For more information around Lower Division Prerequisites, please see the Berkeley Public Health website (<https://publichealth.berkeley.edu/academics/undergraduate/>) Undergraduate Admissions section.

### Biological Sciences

Select 7 units (lab units not included) from the following:

|               |                                                |   |
|---------------|------------------------------------------------|---|
| BIOLOGY 1A    | General Biology Lecture                        | 3 |
| BIOLOGY 1B    | General Biology Lecture and Laboratory         | 4 |
| MCELLBI 32    | Introduction to Human Physiology               | 3 |
| MCELLBI 38    | Stem Cell Biology, Ethics and Societal Impact  | 3 |
| MCELLBI 50    | The Immune System and Disease                  | 4 |
| MCELLBI 55    | Plagues and Pandemics                          | 3 |
| PSYCH/NEU C61 | Brain, Mind, and Behavior                      | 3 |
| or NEU 61     | Brain, Mind, and Behavior                      |   |
| NUSCTX 10     | Introduction to Human Nutrition                | 3 |
| or NUSCTX 10  | Introduction to Human Nutrition: Managing Life |   |

### Mathematics

Select an A and B from the following:

|            |                                                                 |   |
|------------|-----------------------------------------------------------------|---|
| MATH 51/1A | Calculus I (MATH 51 as of Fall 2025)                            | 4 |
| MATH 52/1B | Calculus II (MATH 52 as of Fall 2025)                           | 4 |
| MATH 10A   | Methods of Mathematics: Calculus, Statistics, and Combinatorics | 4 |
| MATH 10B   | Methods of Mathematics: Calculus, Statistics, and Combinatorics | 4 |
| MATH 16A   | Analytic Geometry and Calculus                                  | 3 |
| MATH 16B   | Analytic Geometry and Calculus                                  | 3 |

### Social Science

Select 3 courses from at least two of the following areas:

#### Anthropology

|              |                                                                  |   |
|--------------|------------------------------------------------------------------|---|
| ANTHRO 3     | Introduction to Social and Cultural Anthropology                 | 4 |
| or ANTHRO 3A | Introduction to Social/Cultural Anthropology (American Cultures) |   |

#### Economics

|            |                                                    |   |
|------------|----------------------------------------------------|---|
| ECON 1     | Introduction to Economics                          | 4 |
| or ECON 2  | Introduction to Economics--Lecture Format          |   |
| or ECON C3 | Introduction to Environmental Economics and Policy |   |

#### Political Science

|           |                                      |   |
|-----------|--------------------------------------|---|
| POL SCI 2 | Introduction to Comparative Politics | 4 |
| POL SCI 4 | Introduction to Political Theory     | 4 |

#### Psychology

|             |                          |   |
|-------------|--------------------------|---|
| PSYCH 1     | General Psychology       | 3 |
| or PSYCH W1 | Course Not Available     |   |
| or PSYCH 2  | Principles of Psychology |   |

#### Sociology

|              |                                            |   |
|--------------|--------------------------------------------|---|
| SOCIOL 1     | Introduction to Sociology                  | 4 |
| or SOCIOL 3  | Course Not Available                       |   |
| or SOCIOL 3A | Principles of Sociology: American Cultures |   |
| SOCIOL 5     | Evaluation of Evidence                     | 4 |

## Lower Division Requirements

This is a major requirement, not a prerequisite however it is best to take this course earlier.

|                           |                             |   |
|---------------------------|-----------------------------|---|
| DATA/STAT/COMPSCI/INFO C8 | Foundations of Data Science | 4 |
|---------------------------|-----------------------------|---|

## Upper Division Requirements

|                 |                                                                                      |   |
|-----------------|--------------------------------------------------------------------------------------|---|
| PB HLTH 142     | Introduction to Probability and Statistics in Biology and Public Health <sup>1</sup> | 4 |
| PB HLTH 150A    | Introduction to Epidemiology and Human Disease                                       | 4 |
| PB HLTH 150B    | Human Health and the Environment in a Changing World                                 | 3 |
| or PB HLTH 150B | Human Health and the Environment in a Changing World                                 |   |
| PB HLTH 150D    | Introduction to Health Policy and Management                                         | 3 |
| PB HLTH 150E    | Urban and Community Health                                                           | 3 |

**Capstone Requirement - This is NOT the full list. Please see our website for the most up to date list.**

|              |                                                               |   |
|--------------|---------------------------------------------------------------|---|
| PB HLTH 130  | Advanced Health Policy                                        | 3 |
| PB HLTH 155A | Research Skills in Public Health and Medicine <sup>2</sup>    | 3 |
| PB HLTH 155D | Preparation for Public Health Practice and Leadership Seminar | 3 |

<sup>1</sup> PB HLTH W142 is for graduate students only. Alternatively, PB HLTH 141 Course Not Available can be substituted for PB HLTH 142 for students Summer 2016 and prior.

<sup>2</sup> PB HLTH 155A is a required course for students wishing to pursue an Honors Thesis in the major. Learn more about the Honors Thesis here (<https://publichealth.berkeley.edu/academics/undergraduate/honors-thesis/>).

## Elective Requirements

The courses listed below are approved examples. Our electives list grows during the academic year. Please see our website for the most up-to-date list (<https://publichealth.berkeley.edu/academics/undergraduate/curriculum/>).

### 10 Units of Electives

4 out of 10 elective units must be Upper Division (courses numbered 100 and above). Courses may be selected from the list below. It is not required for students to choose a specific subject concentration. Any PB HLTH courses (excluding the DeCal, group study, and independent research courses) can also meet elective requirements. Graduate courses at Berkeley Public Health can also count towards elective units. Study abroad courses may be considered.

#### Biostatistics

|                   |                                           |   |
|-------------------|-------------------------------------------|---|
| COMPSCI/STAT C100 | Principles & Techniques of Data Science   | 4 |
| COG SCI 131       | Computational Models of Cognition         | 4 |
| or COG SCI C100   | Computational Models of Cognition         |   |
| DEMOG 110         | Introduction to Population Analysis       | 3 |
| MATH 53           | Multivariable Calculus                    | 4 |
| MATH 54           | Linear Algebra and Differential Equations | 4 |
| PB HLTH 145       | Course Not Available                      | 4 |
| STAT C131A        | Statistical Methods for Data Science      | 4 |
| STAT 133          | Concepts in Computing with Data           | 3 |
| STAT 134          | Concepts of Probability                   | 4 |
| STAT 135          | Concepts of Statistics                    | 4 |
| STAT 150          | Stochastic Processes                      | 3 |
| STAT 151A         | Linear Modelling: Theory and Applications | 4 |
| STAT 153          | Introduction to Time Series               | 4 |

**Infectious Diseases**

|                                             |                                                                      |   |
|---------------------------------------------|----------------------------------------------------------------------|---|
| CHEM 135                                    | Chemical Biology                                                     | 3 |
| ESPM C138/<br>MCELLBI C114/<br>PLANTBI C114 | Introduction to Comparative Virology                                 | 4 |
| INTEGBI 114                                 | Infectious Disease Dynamics                                          | 4 |
| INTEGBI 116L                                | Medical Parasitology                                                 | 4 |
| INTEGBI 131                                 | General Human Anatomy                                                | 3 |
| INTEGBI 132                                 | Human Physiology                                                     | 4 |
| INTEGBI 137                                 | Human Endocrinology                                                  | 4 |
| INTEGBI 139                                 | The Neurobiology of Stress                                           | 4 |
| INTEGBI 141                                 | Human Genetics                                                       | 3 |
| MCELLBI C100A/<br>CHEM C130                 | Biophysical Chemistry: Physical Principles and the Molecules of Life | 4 |
| MCELLBI 102                                 | Survey of the Principles of Biochemistry and Molecular Biology       | 4 |
| MCELLBI C114                                | Introduction to Comparative Virology                                 | 4 |
| MCELLBI 140                                 | General Genetics                                                     | 4 |
| MCELLBI C130                                | Cell Biology: from Discovery to Disease                              | 4 |
| MCELLBI 150                                 | Molecular Immunology                                                 | 4 |
| MCELLBI 160                                 | Course Not Available                                                 | 4 |
| or NEU 100A                                 | Cellular and Molecular Neurobiology                                  |   |
| PB HLTH 162A                                | Public Health Microbiology                                           | 4 |
| PB HLTH 168                                 | Public Health Microbiology Laboratory                                | 2 |
| PLANTBI C110L                               | Biology of Fungi with Laboratory                                     | 4 |

**Epidemiology**

|                   |                                                |   |
|-------------------|------------------------------------------------|---|
| DEMOG 110         | Introduction to Population Analysis            | 3 |
| DEMOG/SOCIOL C126 | Sex, Death, and Data                           | 4 |
| GEOG 130          | Food and the Environment                       | 4 |
| INTEGBI 131       | General Human Anatomy                          | 3 |
| INTEGBI 132       | Human Physiology                               | 4 |
| INTEGBI 140       | Biology of Human Reproduction                  | 4 |
| MCELLBI 140       | General Genetics                               | 4 |
| PB HLTH 112       | Global Health: A Multidisciplinary Examination | 4 |

**Environmental Health Sciences**

|                            |                                                        |   |
|----------------------------|--------------------------------------------------------|---|
| CIV ENG 111                | Environmental Engineering                              | 3 |
| CIV ENG 113                | Ecological Engineering for Water Quality Improvement   | 3 |
| CIV ENG 114                | Environmental Microbiology                             | 3 |
| ECON/<br>ENVECON C102      | Natural Resource Economics                             | 4 |
| ECON C171/<br>ENVECON C151 | Development Economics                                  | 4 |
| ECON/<br>ENVECON C181      | International Trade                                    | 4 |
| ENE,RES 102                | Quantitative Aspects of Global Environmental Problems  | 4 |
| ENVECON 131                | Globalization and the Natural Environment              | 3 |
| ENVECON C151/<br>ECON C171 | Development Economics                                  | 4 |
| ENVECON 152                | Advanced Topics in Development and International Trade | 3 |
| ENVECON 153                | Population, Environment, and Development               | 3 |

|                                       |                                                                         |   |
|---------------------------------------|-------------------------------------------------------------------------|---|
| ENVECON 161                           | Advanced Topics in Environmental and Resource Economics                 | 4 |
| ENVECON/<br>ECON C181                 | International Trade                                                     | 4 |
| ESPM 162A                             | Health, Medicine, Society and Environment                               | 4 |
| PB HLTH 177A                          | GIS and Spatial Analysis for Health Equity                              | 3 |
| ESPM 163AC                            | Environmental Justice: Race, Class, Equity, and the Environment         | 4 |
| ESPM C167                             | Environmental Health and Development                                    | 4 |
| ESPM 168                              | Political Ecology                                                       | 4 |
| ESPM 169                              | International Environmental Politics                                    | 4 |
| GEOG 123/<br>DEV STD 150              | Postcolonial Geographies                                                | 4 |
| GEOG 130                              | Food and the Environment                                                | 4 |
| GEOG 138                              | Global Environmental Politics                                           | 4 |
| GEOG 187                              | Geographic Information Analysis                                         | 4 |
| GEOG/LD ARCH C188                     | Geographic Information Science                                          | 4 |
| HISTORY 120AC                         | American Environmental and Cultural History                             | 4 |
| IAS/ENVECON C175                      | The Economics of Climate Change                                         | 4 |
| INTEGBI 117                           | Medical Ethnobotany                                                     | 2 |
| ISF 100D                              | Introduction to Technology, Society, and Culture                        | 4 |
| ISF 100G                              | Introduction to Science, Society, and Ethics                            | 4 |
| NUSCTX 20                             | Personal Food Security and Wellness                                     | 2 |
| NUSCTX 110                            | Course Not Available                                                    | 4 |
| NUSCTX 160                            | Metabolic Bases of Human Health and Diseases                            | 4 |
| PB HLTH C160/<br>ESPM C167            | Environmental Health and Development                                    | 4 |
| PB HLTH 167                           | Applied GIS for Public Health                                           | 3 |
| PB HLTH 170C                          | Drinking Water and Health                                               | 3 |
| PUB POL C184                          | Energy and Society                                                      | 4 |
| SOCIOL 121                            | Innovation and Entrepreneurship: Social and Cultural Context            | 4 |
| SOCIOL 166                            | Society and Technology                                                  | 4 |
| <b>Health Policy &amp; Management</b> |                                                                         |   |
| CY PLAN 120                           | Community Planning and Public Policy for Disability                     | 3 |
| ECON 157                              | Health Economics                                                        | 4 |
| ESPM 102D                             | Climate and Energy Policy                                               | 4 |
| ENVECON C176                          | Climate Change Economics                                                | 4 |
| LEGALST 103                           | Theories of Law and Society                                             | 4 |
| LEGALST 107                           | Theories of Justice                                                     | 4 |
| LEGALST 168                           | Sex, Reproduction and the Law                                           | 4 |
| MEDIAST 112                           | Media Theories and Processes                                            | 4 |
| PB HLTH 116                           | Seminar on Social, Political, and Ethical Issues in Health and Medicine | 3 |
| PB HLTH 126                           | Health Economics and Public Policy                                      | 3 |
| PB HLTH 181                           | Poverty and Population                                                  | 3 |
| POL SCI 103                           | Congress                                                                | 4 |
| POL SCI 150                           | The American Legal System                                               | 4 |
| POL SCI 171                           | California Politics                                                     | 4 |
| PUB POL 101                           | Introduction to Public Policy Analysis                                  | 4 |
| PUB POL C103                          | Wealth and Poverty                                                      | 4 |

|                                                 |                                                                                                     |   |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------|---|
| PUB POL 117AC                                   | Race, Ethnicity, and Public Policy                                                                  | 4 |
| PUB POL 156                                     | Program and Policy Design                                                                           | 4 |
| SOCIOL 115G                                     | Health in a Global Society                                                                          | 4 |
| SOC WEL 112                                     | Social Welfare Policy                                                                               | 3 |
| SPANISH 102C                                    | Advanced Writing Workshop (Volunteering, Global Education, and Good Writing)                        | 4 |
| <b>Community Health &amp; Human Development</b> |                                                                                                     |   |
| ASAMST 143AC                                    | Asian American Health                                                                               | 3 |
| CHICANO 174                                     | Chicanos, Law, and Criminal Justice                                                                 | 4 |
| CHICANO 176                                     | Chicanos and Health Care                                                                            | 3 |
| ESPM 163AC/<br>SOCIOL 137AC                     | Environmental Justice: Race, Class, Equity, and the Environment                                     | 4 |
| ISF C100G                                       | Introduction to Science, Technology, and Society                                                    | 4 |
| NUSCTX 166                                      | Nutrition in the Community                                                                          | 3 |
| PB HLTH 14                                      | Course Not Available                                                                                | 4 |
| PB HLTH 15                                      | Introduction to Global Health Equity                                                                | 3 |
| PB HLTH 101                                     | A Sustainable World: Challenges and Opportunities                                                   | 3 |
| PB HLTH N112                                    | Course Not Available                                                                                | 4 |
| PB HLTH 104A<br>& PB HLTH 104B                  | Course Not Available<br>and Course Not Available                                                    | 4 |
| PB HLTH 107                                     | Violence, Social Justice, and Public Health                                                         | 2 |
| PB HLTH W108                                    | Course Not Available                                                                                | 3 |
| PB HLTH 118                                     | Global Nutrition                                                                                    | 3 |
| PB HLTH 129                                     | The Aging Human Brain                                                                               | 3 |
| PB HLTH C155/<br>SOCIOL C115                    | Sociology of Health and Medicine                                                                    | 4 |
| PB HLTH 155C                                    | War and Public Health                                                                               | 3 |
| PB HLTH 155E                                    | Seeing People: Understanding Homelessness' Roots, Stigmas & Solutions-A Berkeley Changemaker Course | 3 |
| PSYCH 134                                       | Health Psychology                                                                                   | 3 |

## Overview

The summer Global Public Health Summer Minor or Certificate explores health-related issues affecting populations in the United States and worldwide. Students complete courses covering a range of disciplines and methods relevant to promotion and protection of human health, emerging health issues, healthcare systems, and approaches to address and intervene. It will expand knowledge and comprehension of domestic and international challenges for human health. Valuable internship experience, completed locally, nationally, or abroad, and the development of both technical and public health practice skills is part of the available curriculum.

This program is meant to be completed over the summer terms.

## The two options available are described below:

UC Berkeley and visiting students who do not want to declare the minor or receive a certificate, but are interested in these classes may enroll in as many courses as they wish.

**Summer Global Public Health Minor for UC Berkeley students:** The Summer Minor in Global Public Health consists of three core and two elective courses taught in two consecutive, six-week summer sessions. Completion of core courses and any two electives listed below will satisfy the minor. A local or global public health 8-week internship with

a required seminar can also serve as one of the elective courses. The minor can be completed in one or two summers. Students pursuing the 8-week internship as one elective will need two summers to complete the minor.

Students must declare the minor anytime prior to the first day of classes of the student's Expected Graduation Term (EGT). If the semester before the EGT is summer, the deadline to declare the minor is anytime prior to the first day of classes for Summer Session A.

Students interested in declaring a GPH minor must submit the minor/certificate declaration form (<https://publichealth.berkeley.edu/academics/undergraduate/global-public-health/>).

### Summer Global Public Health Certificate for non-UC Berkeley students:

The Summer Certificate in Global Public Health consists of three core and two elective courses taught in two consecutive, six-week summer sessions. Once the required core courses are completed, any two electives listed below will satisfy the requirements of the certificate. The certificate can be completed in one or two summers.

Students interested in completing the GPH certificate program must submit the minor/certificate declaration form (<https://publichealth.berkeley.edu/academics/undergraduate/global-public-health/>).

**For more information about the requirements for the Summer Minor, please visit our website (<https://publichealth.berkeley.edu/academics/undergraduate/global-public-health/>).**

Undergraduate students must fulfill the following requirements in addition to those required by their major program.

For a detailed lists of L&S requirements, please see Overview tab to the right in this guide or visit the L&S Degree Requirements (<https://lsadvising.berkeley.edu/degree-requirements/>) webpage. For College advising appointments, please visit the L&S Advising (<https://lsadvising.berkeley.edu/home/>) Pages.

## University of California Requirements

### Entry Level Writing

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 and must be taken for a letter grade.

### American History and American Institutions

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

## Berkeley Campus Requirement

### American Cultures

All undergraduate students at Cal need to take and pass this campus requirement course in order to graduate. The requirement offers an exciting intellectual environment centered on the study of race, ethnicity and culture of the United States. AC courses are plentiful and offer students opportunities to be part of research-led, highly accomplished teaching environments, grappling with the complexity of American Culture.

## College of Letters & Science Essential Skills Requirements

### Quantitative Reasoning

The Quantitative Reasoning requirement is designed to ensure that students graduate with basic understanding and competency in math, statistics, or computer/data science. The requirement may be satisfied by exam or by taking an approved course taken for a letter grade.

### Foreign Language

The Foreign Language requirement 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 taken for a letter grade.

### Reading and Composition

In order to provide a solid foundation in reading, writing, and critical thinking the College of Letters and Science requires two semesters of lower division work in composition in sequence. Students must complete parts A & B reading and composition courses in sequential order by the end of their fourth semester for a letter grade.

## College of Letters & Science 7 Course Breadth Requirements

### Breadth Requirements

The undergraduate breadth requirements provide Berkeley students with a rich and varied educational experience outside of their major program. 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.

### Unit Requirements

- 120 total units
- Of the 120 units, 36 must be upper division units
- Of the 36 upper division units, 6 must be taken in courses offered outside your major department

### Residence Requirements

For units to be considered in "residence," you must be registered in courses on the Berkeley campus as a student in the College of Letters & Science. Most students automatically fulfill the residence requirement by attending classes at Cal for four years, or two years for transfer students. In general, there is no need to be concerned about this requirement, unless you graduate early, go abroad for a semester or year, or want to take courses at another institution or through UC Extension during your senior year. In these cases, you should make an appointment to meet an L&S College adviser to determine how you can meet the Senior Residence Requirement.

Note: Courses taken through UC Extension do not count toward residence.

### Senior Residence Requirement

After you become a senior (with 90 semester units earned toward your B.A. degree), you must complete at least 24 of the remaining 30 units in residence in at least two semesters. To count as residence, a semester must consist of at least 6 passed units. Intercampus Visitor, EAP, and UC Berkeley-Washington Program (UCDC) units are excluded.

You may use a Berkeley Summer Session to satisfy one semester of the Senior Residence requirement, provided that you successfully complete 6 units of course work in the Summer Session and that you have been enrolled previously in the college.

### Modified Senior Residence Requirement

Participants in the UC Education Abroad Program (EAP), Berkeley Summer Abroad, or the UC Berkeley Washington Program (UCDC) may meet a Modified Senior Residence requirement by completing 24 (excluding EAP) of their final 60 semester units in residence. At least 12 of these 24 units must be completed after you have completed 90 units.

### Upper Division Residence Requirement

You must complete in residence a minimum of 18 units of upper division courses (excluding UCEAP units), 12 of which must satisfy the requirements for your major.

## Learning Goals for the Major

1. Critical Thinking Skills
  - Describe the public health framework of the determinants of the health of populations.
  - Recognize the public health perspective of disease prevention and health promotion.
  - Explain how public health studies the interplay between biology, environment, and behavior.
  - Understand the basic concepts from the social and behavioral sciences in public health.
2. Quantitative Skills
  - Recognize commonly used measures of population health.
  - Identify commonly used methods of measuring risk.
  - Describe common study designs for assessing risk from exposures.
  - Assemble and display summary measures using graphs and tables.
  - Recognize the basics of statistical hypothesis testing.
  - Know how to calculate and interpret confidence intervals.
3. Communication Skills
  - Incorporate statistical and scientific findings into written materials.
  - Prepare fact sheets and other health education tools.
  - Know how to interpret public health reports and scientific literature.
  - Create and give presentations on public health issues.
4. Problem-Solving Skills
  - Research and summarize relevant public health literature.
  - Apply the systems thinking approach to issues in public health.
  - Identify problems in public health with upstream-downstream model.
5. Specialized Knowledge
  - Integrate human biology and genetics with public health issues.
  - Comprehend the basics of infectious disease.
  - Understand the basics of chronic disease.

- Examine and assess environmental health issues.
- Describe the organization and financing of the United States health care system.

6. Lifelong Learning Skills

- Identify ethical issues of public health.
- Be able to perform data collection and research.
- Acknowledge the role of disparities in public health.

Major maps are experience maps that help undergraduates plan their Berkeley journey based on intended major or field of interest. Featuring student opportunities and resources from your college and department as well as across campus, each map includes curated suggestions for planning your studies, engaging outside the classroom, and pursuing your career goals in a timeline format.

Use the major map below to explore potential paths and design your own unique undergraduate experience:

**View the Public Health Major Map.**

## Public Health

### PB HLTH 14N Healthy Communities: An Introduction to Public Health 3 Units

Terms offered: Summer 2014 10 Week Session

Public Health 14N introduces students to basic theories of community health promotion within a public health context. Using a multi-disciplinary and anti-racist approach, this course will examine selected community health topics with particular attention to systemic policies and practices and their implications for community health. Examples of selected topics that will be covered include: core theories of community health, social determinants of health, epidemiology, maternal and child health, environmental health, health policy and management, and other related public health topics. Students will be able to apply their foundational knowledge to engage in discussions about prominent issues in the field of community health.

#### Objectives & Outcomes

**Course Objectives:** 1. To introduce students to the depth and scope of issues embraced by the theory and practice of community health.

2. Provide an opportunity for students to meaningfully examine selected community health issues from a multidisciplinary perspective.

3.

Critically engage with various community health topics through an anti-racist and health equity lens.

4.

Recognize the significance of social determinants of health in achieving health equity.

#### Hours & Format

**Summer:** 8 weeks - 6 hours of lecture and 1 hour of discussion per week

#### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Grassian

### PB HLTH 15 Introduction to Global Health Equity 3 Units

Terms offered: Spring 2019, Spring 2018, Spring 2017

This seminar provides an overview of the intersection between global health and social justice, with a specific focus on the ways in which inequity, specifically the conditions that lead to poverty, disproportionately affect health outcomes. Students will learn about the historical and theoretical underpinnings of global health, how social determinants affect medical outcomes and health policy, the principles of international law and health economics, and the structure of health delivery models. In the process, students will engage in topics related to social factors that impact health, including class, race, gender, and poverty. Class discussions will address contemporary global health priorities through the lens of human rights activism.

#### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 1 hour of discussion per week

#### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructor:** LE

### PB HLTH 24 Freshman Seminar in Public Health 1 Unit

Terms offered: Fall 2025, Spring 2025, Fall 2024

Seminar limited to 15 freshmen led by senior faculty on broad topics in public health such as financing health care, promoting preventive behavior, controlling major public health problems such as world hunger, AIDS, drugs, and the population explosion.

#### Rules & Requirements

**Repeat rules:** Course may be repeated for credit without restriction.

#### Hours & Format

**Fall and/or spring:** 15 weeks - 1 hour of seminar per week

#### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** The grading option will be decided by the instructor when the class is offered. Final Exam To be decided by the instructor when the class is offered.

## PB HLTH 84 Sophomore Seminar 1 or 2 Units

Terms offered: Spring 2022, Spring 2020, Spring 2019

Sophomore seminars are small interactive courses offered by faculty members in departments all across the campus. Sophomore seminars offer opportunity for close, regular intellectual contact between faculty members and students in the crucial second year. The topics vary from department to department and semester to semester. Enrollment limited to 15 sophomores.

### Rules & Requirements

**Prerequisites:** At discretion of instructor

**Repeat rules:** Course may be repeated for credit when topic changes.

### Hours & Format

#### Fall and/or spring:

5 weeks - 3-6 hours of seminar per week

10 weeks - 1.5-3 hours of seminar per week

15 weeks - 1-2 hours of seminar per week

#### Summer:

6 weeks - 2.5-5 hours of seminar per week

8 weeks - 1.5-3.5 hours of seminar and 2-4 hours of seminar per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** The grading option will be decided by the instructor when the class is offered. Final Exam To be decided by the instructor when the class is offered.

## PB HLTH 98 Directed Group Study 1 - 4 Units

Terms offered: Spring 2016, Fall 2015, Spring 2015

### Rules & Requirements

**Credit Restrictions:** Enrollment is restricted; see the Introduction to Courses and Curricula section of this catalog.

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1-4 hours of directed group study per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Offered for pass/not pass grade only. Final exam not required.

## PB HLTH 99 Supervised Independent Study 1 - 4 Units

Terms offered: Spring 2016, Fall 2015, Spring 2015

### Rules & Requirements

**Prerequisites:** Consent of instructor

### Hours & Format

**Fall and/or spring:** 15 weeks - 1-4 hours of independent study per week

#### Summer:

6 weeks - 2.5-10 hours of independent study per week

8 weeks - 1.5-7.5 hours of independent study per week

10 weeks - 1.5-6 hours of independent study per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Offered for pass/not pass grade only. Final exam not required.

## PB HLTH 101 A Sustainable World: Challenges and Opportunities 3 Units

Terms offered: Fall 2025, Spring 2025, Fall 2024

Students now attending Berkeley will confront an extremely different set of challenges than the current faculty experienced. Economic growth cannot continue exponentially in a finite world. Human activity and human numbers threaten the possibility of irreversible damage to the fragile biosphere on which all life depends. In this 3-unit interdisciplinary course, students will focus on finding creative solutions to the problems faced by their generation. Each week, experts will discuss problems and solutions concerning sustainability and climate change that they're passionate about. Topics include energy consumption, food security, population growth and family planning, migration, climate change, policy, and governance.

### Objectives & Outcomes

**Course Objectives:** Find ways to roll back the many political, social, and cultural barriers that stand in the way of developing needed, evidence-based policies and investments.

Identify those behaviors that must change, those public policies that must be put in place and the investments that must be made in order to move the current pattern of unsustainable economic activity to a biologically sustainable one.

Learn to appraise critically different and sometimes conflicting sources of information.

Propose solutions to complex interdisciplinary problems that draw on politics, economics, and philosophy and other social sciences as well as the hard sciences.

Understand how adverse trends- for example in global warming and population growth- can interact in adverse ways, sometimes with considerable rapidity.

Understand that the continued exponential growth in energy consumption and human population growth is unsustainable.

Understand the current rate of destruction of natural resources and biodiversity.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternate method of final assessment during regularly scheduled final exam group (e.g., presentation, final project, etc.).

**Instructors:** Maus, van der Walt

## PB HLTH 107 Violence, Social Justice, and Public Health 2 Units

Terms offered: Summer 2025 First 6 Week Session, Summer 2024 Second 6 Week Session, Summer 2023 Second 6 Week Session

This course addresses violence as a public health issue, using an interdisciplinary public health approach to enable undergraduate students to explore and analyze violence from personal, social, community and political perspectives. Students will learn to apply public health strategies to identify causes of violence and develop practical community-based plans to prevent violence and promote safety. This course will examine violence through the lens of the college campus, paying particular attention to the types of violence more commonly seen on, or associated with, collegiate life, and will include a term paper component.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

**Summer:** 6 weeks - 6 hours of lecture per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternate method of final assessment during regularly scheduled final exam group (e.g., presentation, final project, etc.).

**Instructor:** Gamble

## PB HLTH 108 Women's Health, Gender And Empowerment 3 Units

Terms offered: Not yet offered

The course will provide core knowledge and skills from several disciplines on how to improve women's health and well-being globally, and it will follow a life course framework. It aims to expand students' understanding of the interconnected factors that influence women's health and empowerment - including foundations of sexual and reproductive health, economic development, political frameworks and global reproductive rights, demographic and social changes, basic principles of empowerment theory, educational opportunities, and efforts to ensure gender equity.

### Objectives & Outcomes

**Course Objectives:** A.[KNOWLEDGE]: To expand students' understanding of the interconnected cultural, demographic, social, and economic factors that influence women's health and empowerment globally.

B.[KNOWLEDGE]: To gain knowledge of the historical and present-day contexts of politics, policies, and laws related to women's health outcomes, human rights, sexual and reproductive rights, and gender inequities.

C.[SKILLS]: To critically engage with contrasting perspectives and changing paradigms about women's health and empowerment among epidemiologists, clinicians, public health experts, demographers, economists, human rights activists, and development specialists.

D.[SKILLS]: Assess policies, development frameworks and case studies of interventions designed to improve women's health and empowerment in differing cultural and national contexts with specific attention to gender norms.

**Student Learning Outcomes:** Analyze case studies applying the relevant historical context of politics, policies, and laws related to women's health and human rights.

Analyze the contrasting perspectives and changing paradigms among epidemiologists, public health experts, demographers, economists, human rights activists and development specialists related to women's health and empowerment

Assess the impact of women's health on advances in other sectors including child health, education, economic development, and social stability

Compare macro level political, institutional, and structural factors that influence women's health and empowerment in relation to local, cultural, and regional contexts

Critically examine how gender and women's empowerment is addressed in the Sustainable Development Goals and other development frameworks

Evaluate case studies of interventions designed to improve women's health and empowerment in differing cultural and national contexts and recommend improvements

Examine how girls' education contributes to individual, community, and national development.

Explain the ways in which social, economic, and cultural factors can both promote and impede women's and girls' health.

Identify the major institutions and non-governmental organizations that influence women's health and empowerment and suitable approaches for implementing interventions to ensure gender equity

Identify and analyze gender inequities in health care needs and access to care.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1.5 hours of lecture and 1.5 hours of discussion per week

### Additional Details

## PB HLTH 110A Introduction to Maternal, Child and Adolescent Health (MCAH) 3 Units

Terms offered: Spring 2025

An anti-racist approach to introduce students to the topic of Maternal, Child & Adolescent Health (MCAH) and to the various social and political factors that influence its current role within public health. This introductory course utilizes content from a diverse range of areas including community health, reproductive health, policy, psychology, and pediatrics. The course begins with an overview of the public health field and builds by reviewing the history of MCAH. It will then follow a life-course format, studying the roles of existing policies and public health programs in maternal and perinatal health, as well as in the pivotal developmental stages of infancy, childhood, and adolescence.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

## PB HLTH 112 Global Health: A Multidisciplinary Examination 4 Units

Terms offered: Summer 2025 First 6 Week Session, Summer 2017 First 6 Week Session, Spring 2016

This course examines health at the individual and community/global level by examining the interplay of many factors, including the legal, social, political, and physical environments; economic forces; access to food, safe water, sanitation, and affordable preventive/medical care; nutrition; cultural beliefs and human behaviors; and religion; among others. Students will be expected to read, understand, and use advanced materials from diverse disciplines. Class accompanied by case-based discussions.

### Rules & Requirements

**Credit Restrictions:** Students who complete PH N112 receive no credit for completing PH 112

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture and 1 hour of discussion per week

**Summer:** 6 weeks - 6 hours of lecture and 6 hours of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructors:** Krishnan, Reingold

## PB HLTH 115 Introduction to Global Health Equity 3 Units

Terms offered: Summer 2022 Second 6 Week Session, Summer 2021 Second 6 Week Session, Summer 2020 Second 6 Week Session

This lecture will provide an overview of the intersection between global health and social justice, with a specific focus on ways in which inequity, specifically conditions that lead to poverty, disproportionately affect health outcomes. Students will learn about historical and theoretical underpinnings of global health, how social and structural determinants affect health outcomes and policy, the principles of international law and health economics, and the structure of health delivery models. In the process, students will engage in topics related to social factors that impact health, including class, race, gender, and poverty. Class discussions will address contemporary global health priorities through the lens of human rights activism.

### Objectives & Outcomes

**Student Learning Outcomes:** Critically analyze and critique key grassroots global health advocacy efforts and models  
Formulate comprehensive and equitable policy recommendations on global health cases  
Think critically about and articulate the history, pathology, and causation of contemporary global health inequity  
Utilize basic research methods and work collaboratively in a team setting to complete a group case project

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for PB HLTH 115 after completing PB HLTH 15. A deficient grade in PB HLTH 115 may be removed by taking PB HLTH 15.

**Repeat rules:** Course may be repeated for credit with advisor consent.

### Hours & Format

**Summer:** 6 weeks - 4 hours of lecture and 3 hours of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

## PB HLTH 116 Seminar on Social, Political, and Ethical Issues in Health and Medicine 3 Units

Terms offered: Fall 2025, Spring 2025, Fall 2024

This course offers an introduction to issues and perspectives related to health and medicine. Guest lecturers speak about the week's topic, which can include a variety of topics such as public health, violence, chronic illnesses, environmental health, and health care economics. Speakers share their first-hand experiences in their fields, discuss current issues, debate ethical dilemmas, and pose and answer questions. During the weekly discussion sections, students delve deeper into the issues, not only exploring and perhaps questioning their own thoughts and beliefs, but also learning from the experiences and perspectives of their fellow students.

### Objectives & Outcomes

**Course Objectives:** Consider various socio-economic, ethical, political, and social justice issues in health and medicine from an interdisciplinary perspective, and learn something new. This course will help students form a more comprehensive picture of what public health is and how various levels interact to impact population health. In the process, students will become better acquainted with their own beliefs, as they pertain to the issues discussed, and will learn how to productively engage in discussion with others who may or may not share these same beliefs.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Offered for pass/not pass grade only. Final exam required.

**Instructors:** Francis, Keller

## PB HLTH C117 Introduction to Global Health Disparities Research 2 Units

Terms offered: Spring 2020, Spring 2019, Spring 2018

This course prepares students to conduct a 10-week global health research project in a low or middle-income country (LMIC); provides a background in global health, emphasizing infectious disease research, international research ethics, and the conduct of health research in low-resource settings. Leads students through the process of preparing for, conducting, and completing a short-term research project, with modules focused on cultural communication, the role and pace of research in these other countries, presentation preparation, project development, and troubleshooting skills; gaining perspective into the relationship between global health and health disparities in the USA

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternate method of final assessment during regularly scheduled final exam group (e.g., presentation, final project, etc.).

**Instructor:** Reingold

**Also listed as:** INTEGBI C195

## PB HLTH 118 Global Nutrition 3 Units

Terms offered: Summer 2025 First 6 Week Session, Summer 2024 First 6 Week Session, Summer 2023 First 6 Week Session

We will focus on low- and middle-income countries because they experience the greatest burden of malnutrition, and because they face a unique context of limited financial and government resources. In this course, we will discuss the effects of nutrition throughout the lifecycle in pregnancy, infancy, childhood, and adulthood. We will focus on nutrition broadly including issues of undernutrition, micronutrient deficiencies, and obesity. We will also analyze and evaluate actions taken to ameliorate the major nutritional problems facing vulnerable populations in low- and middle-income countries.

### Objectives & Outcomes

#### Course Objectives: 1.

Describe and interpret the prevalence and trends of public health nutrition issues faced by mothers and children living in low- and middle-income countries, ranging from undernutrition to overweight and obesity.

2.

Discuss the political, environmental, cultural, and socioeconomic factors underlying a wide range of nutrition issues in low- and middle-income countries and understand how interventions affect these factors.

3.

Identify the ways in which historical, social, cultural, economic, commercial, and institutional factors promote or act as barriers to the design and implementation of agriculture, food, and nutrition policies and programs, and the ways in which these policies and programs affect health and other outcomes.

4.

Integrate knowledge of nutritional issues and policy to analyze methods through which stakeholder groups affect the design and implementation of food and nutrition programs and policies.

#### Student Learning Outcomes: •

Ability to conduct a literature review of a specific public health nutritional problem using reputable sources and communicate important findings to various audiences

•

Ability to understand how pressing public health nutritional problems in low- or middle-income contexts affect different stakeholder groups;

•

Critical analysis of issues in public health nutrition relating to the context of a low- or middle-income country;

•

Understanding of the biological and social roles of nutrition in health through the life cycle, particularly as they relate to issues of poor nutrition in a global context;

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

**Summer:** 6 weeks - 8 hours of lecture per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Zyba

## PB HLTH 124 Health Care and Public Health Management 3 Units

Terms offered: Spring 2025, Spring 2024

Examines the management of health care and public health organizations and covers organizational design, human resources, leadership, and change management competencies. Introduces management tools and techniques for monitoring and managing change within organizations. Emphasizes how leaders use data to solve problems. Case studies emphasize how to manage human relations and demands from the external environment.

### Objectives & Outcomes

#### Student Learning Outcomes: a)

Describe key priorities and challenges for health care and public health organizational leaders.

b)

Analyze health care and public health operational, financial, and quality of care data to inform organizational decision-making.

c)

Assess the tradeoffs of diverse organizational structures and designs, including divisional, functional, and matrix designs.

d)

Apply the enabling conditions for effective teams to design and facilitate high performing teams.

e)

Describe different leadership theories and how they apply to leading health care and public health organizations.

f)

Formulate strategies for the effective recruitment, engagement, and integration of effective governing and advisory boards.

g)

Analyze the key steps involved in organizational change management.

h)

Apply performance improvement and operational efficiency methods to health care and public health organizational performance problems.

### Rules & Requirements

**Prerequisites:** Junior or senior status

**Repeat rules:** Course may be repeated for credit with instructor consent.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Rodriguez

## PB HLTH 126 Health Economics and Public Policy 3 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023

This course focuses on a selected set of the major health policy issues and uses economics to uncover and better understand the issues.

The course examines the scope for government intervention in health markets.

### Rules & Requirements

**Prerequisites:** Public Health major or consent of instructor

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture and 1 hour of discussion per week

**Summer:** 8 weeks - 6 hours of lecture and 2 hours of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructor:** Fulton

## PB HLTH 129 The Aging Human Brain 3 Units

Terms offered: Fall 2023, Fall 2021, Fall 2019

The course will survey the field of the human brain, with introductory lectures on the concepts of aging, and brief surveys of normal neuroanatomy, neurophysiology, neurochemistry, and neuropsychology as well as methods such as imaging, epidemiology, and pathology. The neurobiological changes associated with aging will be covered from the same perspectives: neuropsychology, anatomy, biochemistry, and physiology. Major neurological diseases of aging including Alzheimer's and Parkinson's disease will be covered, as will compensatory mechanisms, neuroendocrine changes with aging, depression and aging, epidemiology of aging, and risk factors for decline.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required, with common exam group.

**Instructor:** Jagust

## PB HLTH 130 Advanced Health Policy 3 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023

This course will give you the opportunity to build upon your understanding of the organization, financing and current policy issues of the US health care delivery system obtained in PH 150D. In this course you will become engaged health policy analysts, applying policy making tools (e.g., policy memos/briefs, legislative analysis, regulatory comments, media advocacy, public testimony) to actual health issues and problems. Through individual and group work, you will draw upon both verbal and written communication skills to effectuate health policy change.

### Rules & Requirements

**Prerequisites:** PH 150D: Introduction to Health Policy and Management

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Flagg

## PB HLTH 132 Artificial Intelligence for Health and Healthcare 3 Units

Terms offered: Spring 2025, Fall 2023, Fall 2021

Over the coming decades, data and algorithms will transform medicine and our health care system. Whether you plan to be a physician, scientist, AI developer, or policy-maker, this course will help you understand: (1) the tremendous upside of artificial intelligence for health, and (2) how well-intentioned efforts to apply these tools can do harm. The course will be quantitative (e.g., technical readings; problem sets requiring statistical software), and is designed for students with at least intermediate coursework in statistics, economics, computer science, etc.

### Objectives & Outcomes

**Course Objectives:** Finally, students will learn to identify new unsolved problems where data and algorithms could improve health and medicine, and start to think about developing solutions.

Students will also come away with a list of several 'red flags' -- unique challenges of health data that make it difficult to apply algorithms that have been successful in other fields. This will help them become better and more critical consumers of literature and news in this area. Students will learn about several problems in health care where artificial intelligence is helping doctors and policy makers.

### Rules & Requirements

**Prerequisites:** An intermediate coursework in statistics (e.g., C100), economics(e.g., 100A/B), computer science(e.g., CS88), etc. is recommended

### Hours & Format

**Fall and/or spring:** 15 weeks - 1.5 hours of lecture and 1.5 hours of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Obermeyer

## PB HLTH 142 Introduction to Probability and Statistics in Biology and Public Health 4 Units

Terms offered: Fall 2025, Summer 2025 Second 6 Week Session, Spring 2025

Descriptive statistics, probability, probability distributions, point and interval estimation, hypothesis testing, chi-square, correlation and regression with biomedical applications.

### Rules & Requirements

**Prerequisites:** High school algebra

**Credit Restrictions:** Students will receive no credit for PB HLTH 142 after completing BEHS 130A, PB HLTH 142A, or PB HLTH W142.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

**Summer:** 6 weeks - 7.5 hours of lecture and 4 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructor:** Kang Dufour

## PB HLTH 142W Introduction to Probability and Statistics in Biology and Public Health 4 Units

Terms offered: Fall 2025

Descriptive statistics, probability, probability distributions, point and interval estimation, hypothesis testing, chi-square, correlation, and regression with biomedical applications.

### Rules & Requirements

**Prerequisites:** High school algebra

**Credit Restrictions:** Students will receive no credit for PB HLTH W142 after completing PB HLTH 142. A deficient grade in PB HLTH W142 may be removed by taking PB HLTH 142.

### Hours & Format

**Fall and/or spring:**

7 weeks - 8 hours of lecture per week

15 weeks - 4 hours of lecture per week

**Online:** This is an online course.

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Formerly known as:** Public Health W142

## PB HLTH 147 Global Perspective on Vision 2 Units

Terms offered: Spring 2021, Spring 2020, Spring 2019

There are four facets to the course. 1) Core knowledge of the epidemiology of the major causes of vision loss globally 2) The role of ophthalmology and surgical interventions in global health 3) novel teaching methods in group dynamics, public speaking, video making, physician shadowing, surgery observation and leadership opportunities 4) Hands on public health work with an intervention, such as vision screening for the homeless. A multidisciplinary approach will be employed to study what interventions are taking place to alleviate the burden of ophthalmic disease.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructor:** Lee

**Formerly known as:** Public Health 247

## PB HLTH 150A Introduction to Epidemiology and Human Disease 4 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023

This course introduces epidemiological methods with the goal of teaching students to read critically and interpret published epidemiologic studies in humans. The course also exposes students to the epidemiology of diseases and conditions of current public health importance in the United States and internationally.

### Rules & Requirements

**Prerequisites:** A course in statistics (probability, correlation and regression) preferably PBHLTH 142

### Hours & Format

**Fall and/or spring:** 15 weeks - 4 hours of lecture and 1 hour of laboratory per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructors:** Barcellos, Mujahid, Lewnard

**Formerly known as:** 150

## PB HLTH 150B Human Health and the Environment in a Changing World 3 Units

Terms offered: Fall 2025, Summer 2025 First 6 Week Session, Fall 2024

The course will present the major human and natural activities that lead to release of hazardous materials into the environment as well as the causal links between chemical, physical, and biological hazards in the environment and their impact on human health. The basic principles of toxicology will be presented including dose-response relationships, absorption, distribution, metabolism, and excretion of chemicals. The overall role of environmental risks in the pattern of human disease, both nationally and internationally, will be covered. The engineering and policy strategies, including risk assessment, used to evaluate and control these risks will be introduced.

### Rules & Requirements

**Prerequisites:** 142 and 150A recommended. May be taken concurrently

**Credit Restrictions:** Students will receive no credit for PB HLTH 150B after completing BEHS 160, PB HLTH 150, or PB HLTH N150B. A deficient grade in PB HLTH 150B may be removed by taking PB HLTH 150, or PB HLTH N150B.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture and 1 hour of discussion per week

**Summer:** 6 weeks - 8 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructors:** Bradman, Cardenas

**Formerly known as:** second half of 150

## PB HLTH 150D Introduction to Health Policy and Management 3 Units

Terms offered: Fall 2025, Summer 2025 First 6 Week Session, Fall 2024

This course is intended to introduce students to health policy making and health care organizations in the United States. Students will be introduced to concepts from public policy, economics, organizational behavior, and political science. Students will also be introduced to current issues in U.S. health policy and the present organization of the U.S. health care system.

### Objectives & Outcomes

#### Course Objectives: 1.

Provide an overview of the structure and financing of the U.S. healthcare system at the end of the first half of the course as measured by the midterm exam.

a.

Compare the US healthcare system to the systems in other developed countries (as measured on the final exam).

2.

Identify the principal functions of health insurance, the structure of public and private health insurance plans, and trends in enrollment and expenditures by the end of the first half of the course as measured by the midterm exam.

3.

Describe the involvement and policy goals of different stakeholders in the U.S. healthcare system measured by the midterm exam, article presentations and demonstrated in the course paper.

4.

Explain the health care policy making process in the U.S. and the respective roles of government and markets in this process. Understand the legal, ethical, economic, and regulatory dimensions of health care. To be measured by the final exam.

5.

Demonstrate critical thinking and ability to analyze health policies as demonstrated in the final term paper.

6.

Explain the socio-economic behavioral, biological, environmental, and other factors that impact human health and contribute to health disparities, as assessed in the final exam.

a.

Comprehend the impact of structural racism on health and health care

7.

Explain the innovation and adaptation cycle in biomedical and health information technologies in the U.S health care system as measured in the final exam.

8.

Recognize the structural racism that exists within our healthcare system; consider each person's role in perpetuating the status quo in order to move towards breaking it down.

9.

Apply the concepts learned to understand health/health care crisis (i.e., COVID-19)

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture and 1 hour of discussion per week

#### Summer:

6 weeks - 8 hours of lecture and 2 hours of discussion per week

8 weeks - 6 hours of lecture and 2 hours of discussion per week

### Additional Details

## PB HLTH 150E Urban and Community Health 3 Units

Terms offered: Spring 2024, Spring 2023, Spring 2022

This course will focus on the history, research methods and practices aimed at promoting community and urban health. The course will offer students frameworks for understanding and addressing inequities in community health experienced by racial and ethnic groups in the United States, particularly African-Americans, Latinos and Asian-Pacific Islanders. We will explore the roles of national and local policy, science and research, and cultural representations to explore the causes of structural inequalities and how racial inequalities get 'into our bodies' to influence community health.

### Rules & Requirements

**Prerequisites:** Undergraduate, upper-division standing, unless given Instructor permission

**Credit Restrictions:** Students will receive no credit for PB HLTH 150E after completing PB HLTH C150E. A deficient grade in PB HLTH 150E may be removed by taking PB HLTH C150E.

**Requirements this course satisfies:** Satisfies the American Cultures requirement

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture and 1 hour of discussion per week

**Summer:** 6 weeks - 8 hours of lecture and 2 hours of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Corburn

## PB HLTH C150E Urban and Community Health 3 Units

Terms offered: Spring 2025

This course will focus on the history, research methods and practices aimed at promoting community and urban health. The course will offer students frameworks for understanding and addressing inequities in community health experienced by racial and ethnic groups in the United States. The course will take a historical and comparative perspective for understanding the multiple contributors to health and disease in communities and how residents, scientists and professionals are working to improve community health.

### Rules & Requirements

**Prerequisites:** Upper Division undergraduate standing or consent of instructor

**Credit Restrictions:** Students will receive no credit for PB HLTH C150E after completing PB HLTH 150E, or CY PLAN 117AC. A deficient grade in PB HLTH C150E may be removed by taking PB HLTH 150E, or CY PLAN 117AC.

**Requirements this course satisfies:** Satisfies the American Cultures requirement

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Corburn

**Also listed as:** CY PLAN C117

## PB HLTH N150B Human Health and the Environment in a Changing World 3 Units

Terms offered: Summer 2024 First 6 Week Session, Summer 2023 First 6 Week Session, Summer 2022 First 6 Week Session

The course will present the major human and natural activities that lead to release of hazardous materials into the environment as well as the causal links between chemical, physical, and biological hazards in the environment and their impact on human health. The basic principles of toxicology, microbial ecology, GIS, exposure assessment and risk assessment among others, are covered. The overall role of environmental risks in the pattern of human disease, both nationally and internationally, are covered. The policy strategies, used to evaluate and control these risks are discussed.

### Objectives & Outcomes

#### Student Learning Outcomes: 1.

Ability to describe the basic model of environmental health.

2.

Ability to demonstrate an understanding of environmental health sciences (EHS) core areas: toxicology, microbial ecology, GIS, exposure assessment, risk assessment and environmental epidemiology at a basic level.

3.

Demonstration of oral and written communication skills in the context of environmental health sciences.

4.

Ability to describe methods used to mitigate or control adverse health impacts from environmental hazards.

5.

Demonstrate proficiency in finding primary literature sources in search engines such PubMed and Web of Science and manage citations using Zotero or equivalent software.

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for PB HLTH N150B after completing PB HLTH 150B, or PB HLTH 150. A deficient grade in PB HLTH N150B may be removed by taking PB HLTH 150B, or PB HLTH 150.

### Hours & Format

**Summer:** 6 weeks - 8 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Smith

## PB HLTH 155A Research Skills in Public Health and Medicine 3 Units

Terms offered: Fall 2025, Fall 2024, Fall 2023

This applied course includes both didactic lectures (2 hours/week) and computer R labs (1 hour/week). This course will help you understand how to conduct and interpret research in human health and disease, building on your knowledge of epidemiology and biostatistics. All students will have a hands-on, guided experience analyzing data using R software during dedicated weekly R lab time.

### Objectives & Outcomes

#### Course Objectives: 1.

Develop and define a research question.

10.

Conduct case-based analysis in areas of public health and medicine.

11. Create a "Table 1" for a paper.

2.

Identify primary literature sources and managing literature citations using bibliographic management software (such as EndNote, RefWorks, or Zotero).

3.

Critically interpret information from peer reviewed medical, public health or social science literature.

4.

Clean and manage datasets.

5.

Appropriately visualize data & select appropriate statistical tests.

6.

Execute & interpret basic statistical tests in R (bivariate, non-regression).

7.

Execute & interpret regression analyses in R (bivariate & multivariate).

8.

Develop a research protocol and consent form for study of human subjects.

9.

Select appropriate laboratory, analytic, survey/questionnaire and other methods used in human research.

**Student Learning Outcomes: SKILLS:** Case-based approaches to problems relevant to human health and disease

SKILLS: Creating a data analysis plan

SKILLS: Critically reading the literature related to public health-related research

SKILLS: Developing a research protocol for human subjects

SKILLS: Developing a research question and a testable hypothesis

### Rules & Requirements

**Prerequisites:** Completion of PH 142 and PH 150A (or approval from instructors). Note, it is expected that capstone students will be 4th year graduating seniors, unless otherwise given permission to enroll by the course instructors. It is expected that capstone students will have no more than two Public Health Major core course to complete at time of enrollment

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 1 hour of laboratory per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternate method of final assessment during regularly scheduled final exam group (e.g., presentation, final project, etc.)

## PB HLTH 155B Women's Global Health and Empowerment 3 Units

Terms offered: Summer 2025 Second 6 Week Session, Summer 2024 Second 6 Week Session, Summer 2023 Second 6 Week Session

The course will provide core knowledge and skills from several disciplines on how to improve women's health and well-being globally. It aims to expand students' understanding of the interconnected factors that influence women's health and empowerment - including foundations of sexual and reproductive health, economic development, political frameworks and global reproductive rights, demographic and social changes, basic principles of empowerment theory, educational opportunities, and advances in gender equality.

The sessions follow a life course framework, and will be taught in a seminar style with plenty of opportunities for group discussions and case studies.

### Objectives & Outcomes

#### Student Learning Outcomes: 1.

Identify and analyze gender inequities in health care needs and access to care.

10.

Analyze the contrasting perspectives and changing paradigms among epidemiologists, public health experts, demographers, economists, human rights activists and development specialists related to women's health and empowerment.

11.

Explain the major theories of gender, sexuality and power.

12.

Demonstrate foundational knowledge of female anatomy, physiology and health conditions when discussing broader issues of women's health and empowerment.

2.

Explain the ways in which social, economic, and cultural factors can both promote and impede women's and girls' health.

3.

Examine how girls' education contributes to individual, community, and national development.

4.

Critically examine how gender and women's empowerment is addressed in the Sustainable Development Goals and other development frameworks.

5.

Evaluate case studies of interventions designed to improve women's health and empowerment in differing cultural and national contexts and recommend improvements.

6.

Compare macro level political, institutional, and structural factors that differentially influence men's and women's health and empowerment in relation to local, cultural, and regional contexts.

7.

Identify the major institutions and non-governmental organizations that influence women's health and empowerment and suitable approaches for implementing interventions to ensure gender equity.

8.

Assess the impact of women's health on advances in other sectors including child health, education, economic development, and social stability.

9.

Analyze case studies applying the relevant historical context of politics, policies, and laws related to women's health and human rights.

### Hours & Format

**Summer:** 6 weeks - 6 hours of lecture per week

### Additional Details

## PB HLTH 155C War and Public Health 3 Units

Terms offered: Summer 2025 Second 6 Week Session, Summer 2024 First 6 Week Session, Summer 2022 First 6 Week Session

Course covers global Public Health effects of war in context of war's destruction of the health care infrastructure within the Social Ecological framework. Topics include war's impact on infectious disease & as barrier to control of vaccine-preventable diseases; maternal child health; health of those displaced; psychosocial toll & environmental health consequences. Curriculum focuses on ongoing global conflicts & ramifications of U.S. wars in Iraq and Afghanistan, includes modules focusing on public health prevention approach to war & research methods for studying health outcomes in conflict zones. Students work in teams & apply the course material to a specific war that they will follow. Panel discussions to feature veterans & refugees.

### Objectives & Outcomes

**Course Objectives:** The course will provide students with a foundation on which they can build their own line of future inquiry exploring how war impacts public health.

The objectives of this course include providing students a new paradigm through which they can identify the sustained impact of armed conflict on communities, families and individuals, and understand that those effects linger long after the dead are buried or buildings are reconstructed.

**Student Learning Outcomes:** Finally, they will be able to evaluate how public health's prevention approach can be applied to armed conflict.

In addition, students should be able to place the public health effects of war within the Social Ecological framework.

Moreover, upon completion of the course, students should be able to explain the effects of war on environmental health, nutrition and psychological health.

Students should also be able to explain how war can prevent control of infectious diseases, has contributed to outbreaks or re-emergence of diseases that were previously eliminated, and has prevented the eradication of vaccine preventable diseases.

Students who take the course will apply critical thought to media reports about community violence or adverse health and place them in the framework of the public health consequences of war.

The learning outcomes of the course include the ability to explain how war's destruction of the health care infrastructure impedes Public Health's mission globally — particularly in war zones in low-resource countries — and how war has also impacted Public Health in US communities.

### Hours & Format

**Summer:** 6 weeks - 6 hours of lecture per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructor:** Lubens

## PB HLTH 155D Preparation for Public Health Practice and Leadership Seminar 3 Units

Terms offered: Fall 2025, Fall 2024, Fall 2023

This capstone course will enhance student preparation to be effective public health practitioners and leaders through application of core knowledge, strengthening essential professional skills and development of post-graduation career and graduate education plans. Students will tackle real-world public health cases and emerging local challenges to enhance essential problem solving and innovation skills. Students will also enhance key communication, team and project skills. Through these activities, students will strengthen their ability to lead themselves, work effectively with others and lead health improvement.

### Objectives & Outcomes

**Course Objectives:** Through lecture, readings, and course activities, students will develop the capacity to:

#

Apply public health knowledge acquired in core courses to case-based scenarios.

#

Analyze the impact of a public health problem on a community/population level.

#

Develop and apply innovative approaches to addressing public health issues and present recommendations.

#

Develop interpersonal skill building, conflict resolution, and practical problem-solving skills.

#

Enhance oral and written communication and other key skills necessary for effectiveness as a professional and in demand by employers including: project management, human centered design and process improvement.

#

Increase knowledge of public health career and graduate education options and how to choose a path.

#

Prepare career-related materials. Strengthen interviewing and networking skills.

#

Strengthen effectiveness at working in teams to address public health challenges.

### Rules & Requirements

**Prerequisites:** Completion/concurrent enrollment of Public Health Major core courses: PH142, PH150A, PH150B, and P150D. Note, it is expected that capstone students will be 4th year graduating seniors, unless otherwise given permission to enroll by the Course Instructor. It is expected that capstone students will have no more than two Public Health Major core course to complete at time of enrollment

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternate method of final assessment during regularly scheduled final exam group (e.g., presentation, final project, etc.).

**Instructor:** Williams

## PB HLTH 155E Seeing People: Understanding Homelessness' Roots, Stigmas & Solutions-A Berkeley Changemaker Course 3 Units

Terms offered: Fall 2025, Fall 2023, Fall 2022

The goal is to support you as an informed citizen who understands homelessness, its roots, the multilevel systems & services that exist to address it, & the levers at each level to effect change. We will focus on developing skills to be a changemaker by working together to address homelessness & "housism" in our community. "Housism" is the belief that people experiencing homelessness are intrinsically less worthy/human. We will be informed in our growth by counter-narratives by people experiencing homelessness & by theoretical frameworks, such as the Social Determinants of Health, Critical Race Theory, Intersectionality, the Ecological Model, & theories of stigma. Students who have experienced homelessness or unstable housing are welcome.

### Objectives & Outcomes

- Course Objectives:**
1. Explain the causes of homelessness from historical, systems, and social-ecological perspectives.
  2. Discuss the roots of homelessness in the United States and in the Bay Area in systemic racism against BIPOC populations, homophobia, transphobia, and sexism.
  3. Inspect and unpack your housism and begin to develop and apply an antihousist framework.
  4. Categorize the different subpopulations of people experiencing homelessness and the unique forces leading to their vulnerability.
  5. Demonstrate the relationship between homelessness, individual wellbeing and public health.
  6. Apply changemaker principles to the goal of eliminating housism in the Bay Area.

### Rules & Requirements

**Requirements this course satisfies:** Satisfies the American Cultures requirement

**Repeat rules:** Course may be repeated for credit with advisor consent.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Auerswald

## PB HLTH C155 Sociology of Health and Medicine 4 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023, Summer 2018  
First 6 Week Session, Spring 2018

This course covers several topics, including distributive justice in health care, the organization and politics of the health system, the correlates of health (by race, sex, class, income), pandemics (e.g., AIDS, Avian Flu and other influenzas, etc.), and the experience of illness and interactions with doctors and the medical system.

### Rules & Requirements

**Prerequisites:** Sociology 1, 3, 3AC or consent of instructor

**Credit Restrictions:** Students will receive no credit for Sociology C115 after taking Sociology 155, Sociology C155/Public Health C155. A deficient grade in Sociology 155 may be removed by taking Sociology C115/Public Health C155.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3-3 hours of lecture and 0-2 hours of discussion per week

### Summer:

6 weeks - 7.5-7.5 hours of lecture and 0-2 hours of discussion per week

8 weeks - 6-6 hours of lecture and 0-2 hours of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Also listed as:** SOCIOL C115

## PB HLTH C160 Environmental Health and Development 4 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023

The health effects of environmental alterations caused by development programs and other human activities in both developing and developed areas. Case studies will contextualize methodological information and incorporate a global perspective on environmentally mediated diseases in diverse populations. Topics include water management; population change; toxics; energy development; air pollution; climate change; chemical use, etc.

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for ESPM C167 after completing ESPM 167.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture and 1 hour of discussion per week

**Summer:** 6 weeks - 6.5 hours of lecture and 2 hours of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructor:** Morello-Frosch

**Also listed as:** ESPM C167

## PB HLTH 162A Public Health Microbiology 4 Units

Terms offered: Fall 2025, Summer 2025 Second 6 Week Session, Fall 2024

Introduction to properties of microorganisms; their relationships with humans in causing infectious diseases and in maintaining health.

### Rules & Requirements

**Prerequisites:** One year each of college-level biology and chemistry

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture and 1 hour of discussion per week

**Summer:** 6 weeks - 8 hours of lecture and 2 hours of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructor:** Liu

## PB HLTH 167 Applied GIS for Public Health 3 Units

Terms offered: Summer 2025 8 Week Session, Summer 2024 8 Week Session

Course is to familiarize students with principles, methods, & techniques necessary to apply GIS in public health settings. Weekly readings, discussions, case studies are presented to introduce application of GIS technologies; maps for visualizing clusters, mobile phone-Apps for data collection, & spatial analyses such as proximity analysis or site suitability. Course includes assignments aimed & acquiring experience on the use of GIS for infectious disease control, disease cluster detection, environmental justice, health services data mapping, & spatial risk assessment. Culminating project: Story Map where students use maps they've created as well as additional narrative text images & optional videos for community health education or policy

### Objectives & Outcomes

#### Course Objectives: #

Create a Story Map to convey information related to an important health issue.

#

Create a mobile-GIS tool for capturing geo-located health or asset data.

#

Know how to define, design, implement and apply spatial data to a health-related issue.

#

The ability to develop disease surveillance maps.

#

The objective of this course is to provide technical training .

#

Understand how maps relate to policies such as redlining and how those relate to current health inequities.

#

Understand the rewards and challenges of working with spatial data.

**Student Learning Outcomes:** Obtain marketable skills (eg. StoryMaps and Dashboards)

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for PB HLTH 167 after completing PB HLTH W267. A deficient grade in PB HLTH 167 may be removed by taking PB HLTH W267.

### Hours & Format

**Summer:** 8 weeks - 6 hours of lecture per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Smith

**Formerly known as:** Public Health 177

## PB HLTH 168 Public Health Microbiology Laboratory 2 Units

Terms offered: Fall 2023, Fall 2022

This laboratory course was designed to accompany PH162A, Public Health microbiology. The primary emphasis in the laboratory will be on properties of microorganisms, particularly those that cause infectious disease in humans. Examples will be presented of laboratory applications of microbiology and immunology as they relate to the diagnosis and treatment of disease, and control of the environment to prevent transmission of infectious agents.

### Rules & Requirements

**Prerequisites:** One year each of college-level biology and chemistry. Students are encouraged to take PH 162A concurrently or have taken it previously

**Credit Restrictions:** Students will receive no credit for PB HLTH 168 after completing BEHS 103.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2.5 hours of laboratory and 1 hour of lecture per week

#### Summer:

6 weeks - 8 hours of laboratory and 2 hours of lecture per week

8 weeks - 5 hours of laboratory and 2 hours of lecture per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructor:** Liu

**Formerly known as:** Public Health 162L

## PB HLTH 170C Drinking Water and Health 3 Units

Terms offered: Spring 2022, Spring 2021, Spring 2020

The course covers monitoring, control and regulatory policy of microbial, chemical and radiological drinking water contaminants. Additional subjects include history and iconography of safe water, communicating risks to water consumers and a bottled water versus tap water taste test as part of the discussion on aesthetic water quality parameters. A field trip to a local water treatment plant is included.

### Objectives & Outcomes

**Student Learning Outcomes:** By the end of this course, students will be expected to:

Recognize the global occurrence of waterborne contaminants and related health impacts.

Understand water quality monitoring and control of key water quality constituents.

Appreciate the complexities of the regulatory process as it pertains to public drinking water systems in the US and abroad.

Read and synthesize published and unpublished sources of information regarding drinking water and health. Prepare a literature review in journal submission format.

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of lecture per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Smith

## PB HLTH 177A GIS and Spatial Analysis for Health Equity 3 Units

Terms offered: Spring 2025, Spring 2024, Spring 2023

The goal of this course is to acquire the knowledge and skills needed to approach public health problems from an equity or health justice perspective. Students will acquire mapping and spatial analysis (spatial epidemiology) skills and apply them in the context of structural inequity, health disparities, and racial justice. Geospatial skills are applied to public health problems that demonstrate differences in health exposures, risks, and adverse outcomes for BIPOC or economically disadvantaged individuals living in the US as well as those in low and medium income countries as compared to high income countries.

### Objectives & Outcomes

**Course Objectives:** Communicate information related to an important health issues including their geographic and demographic contexts.

#How: Create a Dashboard of health data

# How: Use the ESRI StoryMap Builder to incorporate short narratives, maps, infographics, and images into a web-based interactive communication tool.

Demonstrate the ability to design, implement, and apply spatial data to determine and display relative prevalence of diseases.

# How: Create maps and perform kernel density and cluster/hot spot analysis for a specific disease

# How: Create a dashboard to illustrate the location and incidence of disease cases

Illustrate how maps were used to contribute to structural racism by relating historic redlining maps to current health inequities.

# How: Create a social vulnerability index from demographic and health indicators, and map the index by county

# How: Compare a current map that illustrates social vulnerabilities to historic redlining maps from the Federal Housing Administration.

Illustrate the limitations of political boundaries (census areas, cities, counties), in predicting disease prevalence, and equity issues associated with health risks.

# How: Use appropriate classification schema to overcome the "Modifiable Areal Unit Problem"

Predict concentrations of an environmental contaminant where data are missing

# How: Use Kriging to interpolate values in an area that has some missing data.

Report survey data cartographically.

# How: Develop and execute a geo-enabled survey on a public health issue

# How: Create an interactive map of survey results

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for PB HLTH 177A after completing PB HLTH 277A. A deficient grade in PB HLTH 177A may be removed by taking PB HLTH 277A.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1.5 hours of lecture and 3 hours of laboratory per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Smith

## PB HLTH 180 The Evolution of Human Sexuality 2 Units

Terms offered: Fall 2023, Spring 2023, Fall 2022

This course is built around an evolutionary perspective of the basis of human mating behavior and explores a variety of topics in human sexuality with the goal of helping us to understand ourselves and to understand and accept the behavior of others. The course takes examples from art, sociology, anatomy, anthropology, physiology, contemporary politics, and history to explore the richness of human sexual behavior and reproduction and the interaction between our biology and our culture.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of seminar per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructor:** Potts

## PB HLTH 181 Poverty and Population 3 Units

Terms offered: Fall 2025, Fall 2024, Fall 2023

Globally one million more births than deaths occur every 112 hours, 90% in the poorest countries. Between 1960 and 1980, considerable attention was focused on rapid population growth. Afterwards, the attention has faded and investment in family planning evaporated. Family size among some of the poorest women is increasing. This course seeks to provide an understanding of the relationships between population growth, poverty, women's autonomy, and health. It explores the political "fashions" underlying changing paradigms among demographers, and economists, and development specialists.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

**Instructors:** Campbell, Potts, Prata

## PB HLTH 182 Sexual Health and Sexuality 3 Units

Terms offered: Fall 2025, Fall 2024, Spring 2024

This course takes examples from biology, sociology, anatomy, anthropology, art, physiology, contemporary politics, and history to explore the richness of human sexual behavior and is designed to enable students to engage in critical thinking and problem solving and other means of inquiry in relation to their sexual selves. The course encourages students to make informed sexual decisions and to be aware of the bio-medical, cultural, sociological, psychological, and public health education aspects of their sexuality. Responsible sexual decision making is based not only on accurate information but also on carefully evaluating information and considering one's own values.

### Rules & Requirements

**Credit Restrictions:** Students will receive no credit for PB HLTH 182 after completing PB HLTH 180, or PB HLTH 182. A deficient grade in PB HLTH 182 may be removed by taking PB HLTH 180, or PB HLTH 182.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 1 hour of discussion per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Mills

## PB HLTH 188 Fung Fellowship Seminar 3 Units

Terms offered: Fall 2024, Spring 2023, Fall 2022

This course explores the development of innovations to improve the health of populations, with a primary focus on technologies for children (ages 0 to teen) and older adults. Significant emphasis is placed on health equity in exploring these customer groups. Human-centered design is used as the overarching approach to problem solving, which contributes mindsets and skills, as well as mechanisms for collaboration. This course is part of the Fung Fellowship for Wellness & Technology Innovations.

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit with instructor consent.

### Hours & Format

**Fall and/or spring:** 15 weeks - 2 hours of lecture and 1 hour of laboratory per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

**Instructor:** Sandhu

## PB HLTH H195A Special Study for Honors Candidates in Public Health 3 Units

Terms offered: Fall 2021, Spring 2019, Fall 2017

Required for students intending to complete an honors thesis in their senior year. This course will document your completion of an senior honors thesis in Public Health. You will focus on writing and publishing scientific documents and presenting scientific information in mixed media (written and oral) to diverse audiences (scientists and the general public).

### Hours & Format

**Fall and/or spring:** 15 weeks - 3 hours of independent study per week

### Summer:

6 weeks - 7.5 hours of independent study per week

8 weeks - 5.5 hours of independent study per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternate method of final assessment during regularly scheduled final exam group (e.g., presentation, final project, etc.).

## PB HLTH 196 Special Topics in Public Health 1 - 4 Units

Terms offered: Spring 2023, Spring 2022, Fall 2021

Special topics in various fields of Public Health. Topics covered will vary from semester to semester and will be announced at the beginning of each term.

### Rules & Requirements

**Prerequisites:** Upper division standing

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1-4 hours of lecture per week

### Summer:

6 weeks - 1-10 hours of lecture per week

8 weeks - 1-8 hours of lecture per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Final exam required.

## PB HLTH 196A Special Topics in Public Health 1 - 2 Units

Terms offered: Spring 2025

Special topics in various fields of Public Health. Topics covered will vary from semester to semester and will be announced at the beginning of each term.

### Rules & Requirements

**Repeat rules:** Course may be repeated for credit when topic changes. Students may enroll in multiple sections of this course within the same semester.

### Hours & Format

### Fall and/or spring:

8 weeks - 1-5 hours of lecture per week

8 weeks - 1-5 hours of lecture per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Letter grade. Alternative to final exam.

## PB HLTH 197 Field Study in Public Health 1 - 4 Units

Terms offered: Fall 2025, Fall 2023, Spring 2023

Supervised experience relevant to specific aspects of public health in off-campus organizations. Regular individual meetings with faculty sponsor and written reports required.

### Rules & Requirements

**Prerequisites:** Upper division standing

**Repeat rules:** Course may be repeated for credit without restriction.

### Hours & Format

**Fall and/or spring:** 15 weeks - 1-4 hours of independent study per week

### Summer:

6 weeks - 1-10 hours of independent study per week

8 weeks - 1-8 hours of independent study per week

### Additional Details

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Offered for pass/not pass grade only. Final exam not required.

## **PB HLTH 198 Directed Group Study 1 - 4 Units**

Terms offered: Fall 2025, Spring 2025, Fall 2024

### **Rules & Requirements**

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 1-4 hours of directed group study per week

### **Summer:**

6 weeks - 1-4 hours of directed group study per week

8 weeks - 1-4 hours of directed group study per week

### **Additional Details**

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Offered for pass/not pass grade only. Final exam not required.

## **PB HLTH 199 Supervised Independent Study and Research 1 - 4 Units**

Terms offered: Summer 2023 8 Week Session, Spring 2023, Spring 2022

Enrollment restrictions apply; see the Introduction to Courses and Curricula section of this catalog.

### **Rules & Requirements**

**Repeat rules:** Course may be repeated for credit without restriction.

### **Hours & Format**

**Fall and/or spring:** 15 weeks - 1-4 hours of independent study per week

### **Summer:**

6 weeks - 1-4 hours of independent study per week

8 weeks - 1-4 hours of independent study per week

### **Additional Details**

**Subject/Course Level:** Public Health/Undergraduate

**Grading/Final exam status:** Offered for pass/not pass grade only. Final exam not required.