Health and Human Biology Possible Capstone Seminar Courses

Below is a list of seminar courses HHB students have used to fulfill the senior capstone requirement. These courses are pre-approved by the HHB concentration advisors. Not all of these courses are offered every year so students should consult COURSES@BROWN for the most up to date schedule. Additional seminar courses, not listed here, may better suit student interests in fulfilling their capstone requirement. Students are encouraged to discuss potential capstone seminars early with the concentration advisor.

Capstone Seminar Requirements: Seminars that students identify which are senior/ graduate level, capped to a size that facilitates advanced discussion (15 - 20 students), and which have assignments that offer a clear opportunity to demonstrate critical and independent thinking in the concentration (i.e. final papers and projects) are also possible. Students should discuss these with the concentration advisor and obtain formal approval to use the seminar as a capstone via the ASK declaration.

AFRICANA STUDIES AFRI 1920 - Health Inequality in Historical Perspective

Seminar takes a historical perspective to explore causes of health inequality. Draws on studies from the 19th century-present. Examines socio–political and economic context of health/disease, focusing on how race, class, and gender shape the experience of health, disease causality, and public health responses with emphasis on the COVID-19 pandemic. Includes health consequences of immigration and pandemics, incarceration, race-based medicine. Enrollment restricted to 20, second and third-year students.

BIOL 0946 - Research Design + Quantitative Methods for the Health Sciences

BIOL 0946 is a course that provides the skills necessary to identify a clinical research question from a case scenario, implement a research design to answer a research question, identify the appropriate quantitative methods for the design, and interpret the results. These skills translate to almost any research experience, including honors theses. You will also learn how to publish in oral and written formats across the health sciences disciplines. There is one week in this course devoted to student-requested topics. I'll ask throughout the semester what parts of the research experience you are interested in learning more about - such as grant writing, IRB applications and approval, quality improvement, etc. I'm happy to accommodate and make this course the most useful for you! Assessments in this course are geared towards learning. There are multiple forms of assessments, with no one assessment carrying a majority of the weight, so you can showcase learning in multiple ways.

BIOL 1070 - Biotechnology and Global Health

This course examines contemporary biotechnologies used to combat the predominant, worldwide problems in human health. Global health will be addressed from the scientific and engineering perspectives while integrating public health policy, health systems and economics, medical and research ethics, and technology regulation and management. This course is intended for graduate and advanced undergraduate students in biology, engineering, or related fields who have an interest in global health initiatives. Expected background: BIOL 0200 and BIOL 0800, or equivalents. Preference will be granted to graduate students in the Biotechnology and Biomedical Engineering programs. Only for related course credit in Biology. Enrollment limited to 20. Instructor permission required.

BIOL 1445 - Planetary Health: Global Environmental Change and Emerging Infectious Disease

Will a warmer world be a sicker world? What is it about New England that supports the proliferation of Lyme Disease? How are wildlife trade and species invasions contributors to emerging diseases like covid-19? We will explore these and related questions in Planetary Health. Planetary health is a timely field focused on understanding the human health implications of human-caused disruptions to Earth's natural systems. The facet of ‘health’ that we focus on is infectious disease. Students will learn how/when/where/why infectious diseases emerge in association with anthropogenic environmental impacts. Students will learn through engagement with an array of materials and experiences including lectures, primary/secondary literature, expert-based resources, peer and instructor interaction, virtual discussion, interest driven projects, reflections, and David Quammen’s ‘Spillover’. The course is open to juniors/seniors and designed for those with interests in environmental science, conservation biology and human health.

BIOL 1945 - Planetary Health: Outbreaks and Infections

This senior capstone course will investigate epidemic diseases that have plagued mankind in the past and explore the factors that contribute to the continued spread of diseases today. This course will emphasize the biology of both infectious and noninfectious diseases by exploring mechanisms of spread, pathogenesis, and prevention. Attention will also be given to environmental, economic, geographical, and social contributors to disease. Interactive class discussions, student presentations, analysis of primary literature, and multimedia homework will develop student skills culminating in an independent research project that dissects the life history of a disease and provides a forward-thinking strategy to combat it.

HIST 1977I - Gender, Race, and Medicine in the Americas

This seminar explores the gendered and racial histories of disease and medicine in nineteenth and twentieth century Latin America and the United States. From the dark history of obstetrics and slavery in the antebellum U.S. South to twentieth-century efforts to curb venereal disease in revolutionary Mexico or U.S.- occupied Puerto Rico, to debates over HIV policy in Cuba and Brazil—together we will explore how modern medicine has shaped both race and gender in the Americas. Topics we will explore include environmental health and the body; infant mortality; the medicalization of birth; and the colonial/imperial history of new reproductive technologies. Course is capped at 20 and meets Wednesdays 3-5:30.
Instructor: Daniel A. Rodriguez.

PHP1964 - Cancer Epidemiology and Prevention

This course is aimed at enhancing the knowledge and skills central to the application of epidemiologic methods to cancer screening, prevention, and control. We will examine cancer incidence and trends in the U.S. and globally, interpret their implication for cancer etiology, and critically analyze current evidence regarding the role of various major risk factors on human cancer risks. The class will focus on the impact of major environmental, occupational, and lifestyle risk factors on cancers of high public health significance.

PHP 1885 - Measuring Mindfulness

Recently, the cover of Time magazine declared a “mindful revolution” due to its popularity and growing body of research suggesting that mindfulness may help to treat a number of health- related problems from general stress to anxiety to addiction. However, little is known about the underlying mechanisms of how it works. This course will investigate the many ways that mindfulness is measured (e.g. self-report, behavior, EEG, fMRI etc.), and use these as a doorway for our own experiential exploration of what mindfulness is for ourselves.

PHP 1920 - Social Determinants of Health

This course provides an overview of social determinants of health. Examples of topics include health effects of educational attainment, social integration, racial discrimination, childhood psychosocial environment, mindfulness and job strain. Mixed teaching methods will be used, such as small and large group discussions, debates, student presentations, and lectures. The human body is embedded in communities with particular attributes such as collective lifestyles and health practices, population-based health programs, economics, health services, built environments and social characteristics. Those communities are embedded
within contexts of the natural environment, culture and politics, which all exist within a particular place and time in history. These upstream factors influence health and physiologic underpinnings of disease. Course is open to graduate students and advanced undergraduate students. Each class session will be approximately 2.5h duration (with a 10 min break half-way through), involving lectures, group discussions, and informal student presentations. Classes will typically be arranged to use mixed teaching methods, including a blend of lectures and group work to ensure that the class remains dynamic and interesting to the students as much as possible through the duration of each session. Assigned readings will be provided with clear reading objectives. Workload will be designed so that students are expected to need to spend no more than 5-7 hours per week on the course outside of class. Assignments include written and oral projects, discussions and participation. Instructor: Eric B. Loucks.

OTHER

TRI-LAB ● Seminars may apply year to year depending on the topic
Seminars that students identify which are senior/graduate level, capped to a size that facilitates high level discussion (~15 -20 students), and which have components that promote critical and independent thinking in the concentration are also possible. Students should discuss these with the concentration advisor.

Group Independent Study Projects (GISP)
Group Independent Study Projects are cooperative ventures in which students and Brown faculty develop credit-bearing courses that are not a regular part of the Brown curriculum. Participating students bear major responsibility for researching the course topic, constructing a syllabus, and planning and conducting the academic coursework. Each Group Study is sponsored by an instructor who holds a teaching appointment at Brown and who is prepared to play an active role in the course. The College Curriculum Council reviews all proposals, and courses appear on the academic transcript with a unique number and title. The development of a GISP proposal is an intrinsic part of the course. Each student participant is therefore expected to contribute to the course syllabus. Students who have not played a part in planning the course may not register after the fact. Any student who is in good standing and who has completed at least one semester at Brown is eligible to initiate and participate in a Group Study Project. Proposal forms and other information about GISPs are available at the Curricular Resource Center and on the CRC website.