Health & Human Biology

Health and Human Biology is an interdisciplinary concentration that provides a rigorous foundation in the biological sciences with substantive course work in humanities and social sciences within a subfield of Human Health and Disease. The program includes: background courses, biology core courses, a set of theme courses, and a Senior Capstone activity. Background courses provide the essential foundations in chemistry, mathematics, methods, and basic biology. These support the Biology core, which is comprised of a flexible menu of intermediate and advanced courses. A required portion of the Biology core is Genetics, a cornerstone of human biology and its interface with other fields. The Biology core underscores the related coursework within the Health and Disease Theme. The Theme courses are social science and humanities courses that form a cohesive, thoughtful grouping. Theme groupings must be approved by the advisor. A required senior capstone course or activity builds on the program's focus.

Program Requirements

REQUIRED BACKGROUND:

Four (4) courses including:

- MATH 0090  Introductory Calculus, Part I (or equivalent placement)  1
- OR
  - MATH 0050  Analytic Geometry and Calculus
  - & MATH 0060  and Analytic Geometry and Calculus
- OR
  - MATH 0100  Introductory Calculus, Part II
  - or MATH 0170  Advanced Placement Calculus
- CHEM 0330  Equilibrium, Rate, and Structure  1
- BIOL 0200  The Foundation of Living Systems  1
- Statistics course chosen with advisor's help.

CORE PROGRAM:

In addition to the stated background in Chemistry, Math, Biology and Statistics, five (5) Biology plus four (4) coherently-grouped Theme courses, plus a Senior-Year Capstone course or project. (See description of Capstone at link below this table).

BIOLOGY:

Five (5) courses, including:

- Genetics, which can be fulfilled in the following ways:
  - BIOL 0470  Genetics
  - OR
  - BIOL 0480  Evolutionary Biology
  - & BIOL 0500  and Cell and Molecular Biology
  - OR
  - BIOL 0480  Evolutionary Biology
  - & BIOL 0510  and Introductory Microbiology
  - OR
  - BIOL 0480  Evolutionary Biology
  - & BIOL 0280  and Introductory Biochemistry

Select one course in structure/function/development such as:

- BIOL 0400  Biological Design: Structural Architecture of Organisms
- BIOL 0800  Principles of Physiology
- BIOL 1310  Developmental Biology
- BIOL 1800  Animal Locomotion
- BIOL 1880  Comparative Biology of the Vertebrates
- NEUR 0010  The Brain: An Introduction to Neuroscience

One course in organismal/population biology such as:

- BIOL 0370  - Experimental Evolution
- BIOL 0380  The Ecology and Evolution of Infectious Disease
- BIOL 0390  Vertebrate Evolution and Diversity

BIOL 0400  Biological Design: Structural Architecture of Organisms
BIOL 0410  Invertebrate Zoology
BIOL 0415  Microbes in the Environment
BIOL 0420  Principles of Ecology
BIOL 0480  Evolutionary Biology
BIOL 1470  Conservation Biology
BIOL 1880  Comparative Biology of the Vertebrates
ENVS 0490  Environmental Science in a Changing World

Or a course from the NEUR 1940 series

c) Two Biology or Neuroscience courses that relate to and support the chosen theme course grouping. At least one must be at the advanced level.

THEME: With the advisor's assistance, a theme is chosen and a cohesive set of courses are selected from outside of Biology. See Notes below:

SENIOR CAPSTONE ACTIVITY: Must be conducted during the senior year, fulfilled by one of the following, and related to the student's chosen theme:

1) Advisor approved senior seminar or advanced course related to the theme
2) One semester of independent research/independent study (BIOL 1950 or BIOL 1960); in the case of a senior honors thesis, both BIOL 1950 and BIOL 1960 can be used as the capstone.
3) An appropriate internship with a scholarly context can be used if coupled with a semester of independent study mentored by a Brown faculty member.

Total Credits 14

THEME:

- Approved courses must be above the introductory level and at least one must be 1000-level or above.
- No more than TWO courses from a given department may be included in the theme portion.
- NOTE: Beginning with the Class of 2020: Health Systems, Structure and Policy and Women's/Children Health will be eliminated.
- Students will then select from FOUR theme options: 1) Health Behavior, 2) Environmental Health, 3) Global/International Health, 4) Social Context of Health and Disease.

CAPSTONE: See http://www.brown.edu/academics/biology/undergraduate-education/ for more information on the Capstone Activity.

HONORS: See more information about Honors at http://www.brown.edu/academics/biology/undergraduate-education/.