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** and **MATH 0060** 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:

- **BIOL 0470** Genetics 5

Genetics, which can be fulfilled in the following ways:

- **OR**
  - **BIOL 0470** Genetics
  - **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 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 0380** The Ecology and Evolution of Infectious Disease

### 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.

### 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

**CHART:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 0410</td>
<td>Invertebrate Zoology</td>
</tr>
<tr>
<td>BIOL 0420</td>
<td>Principles of Ecology</td>
</tr>
<tr>
<td>BIOL 0480</td>
<td>Evolutionary Biology</td>
</tr>
<tr>
<td>BIOL 1470</td>
<td>Conservation Biology</td>
</tr>
<tr>
<td>BIOL 1880</td>
<td>Comparative Biology of the Vertebrates</td>
</tr>
<tr>
<td>ENVS 0490</td>
<td>Environmental Science in a Changing World</td>
</tr>
</tbody>
</table>

Or a course from the NEUR 1940 series

Two Biology or Neuroscience courses. At least one must be at the advanced level.

1. **THEME:** With the advisor’s assistance, a theme is chosen and a cohesive set of courses as 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
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**CAPSTONE:** See https://www.brown.edu/academics/biology/undergraduate-education/undergraduate/health-and-human-biology for more information on the Capstone Activity.

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

This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

Helvetica was used instead of Arial.

The editor may contact Leepfrog for a draft with the correct fonts in place.