Human Biology, 2017-2018
Health & Society
The requirements listed below pertain to all students matriculating in August 2017 and January 2018.

I. Distribution Requirements

Credits  39-47

A. Natural Sciences: Introductory Chemistry
CHEM 2070 and 2080 General Chemistry  8

B. Social Sciences
An introductory course in two different social sciences.
Choose one course in any two of the following four areas:

Anthropology
ANTHR 1400 The Comparison of Cultures

Economics
ECON 1110 Introductory Microeconomics OR
ECON 1120 Introductory Macroeconomics

Psychology
HD 1100 Lifespan Development OR
HD 1150 Human Development: Infancy and Childhood OR
HD 1170 Human Development: Adolescence and Emerging Adulthood OR
PSYCH 1101 Introduction to Psychology

Sociology
DSOC 1101 Introduction to Sociology OR
SOC 1101 Introduction to Sociology

C. Humanities
Recommended: Ethics, Philosophy.
Choose any course with the Course Distribution HA, LA, or CA.

D. Written Communications
Must be First-Year Writing Seminars.
MUST BE COMPLETED DURING FIRST 2 SEMESTERS.

E. Quantitative and Analytical

Credits  7-8

a. Either Statistics or Calculus must be taken at Cornell unless you have earned a score of 4 or 5 on AP Calculus BC.
b. Once the above requirement is met other AP credit from Calculus AB (a score of 4 or 5) or Statistics (a score of 4 or 5) may be applied to the Quantitative and Analytical requirement if the content is not overlapping.

1. Calculus/Advanced Math
Choose one of the following:
MATH 1105, MATH 1106, MATH 1110, OR Higher level calculus
*Calculus or higher level math is generally needed for premed or grad study

2. Statistics
Choose one of the following:
STSCI 2150 (recommended), PAM 2100, AEM 2100, BTRY 3010, ILRST/STSCI 2100, MATH 1710, PSYCH 3500,

F. Additional requirements

Credits  9-16

Organic Chemistry Lecture (6-credit minimum for pre-health students)
Choose one of the following sequences:
CHEM 1570 Intro Organic & Biological Chemistry (Only for Spring, not for pre-health)
CHEM 3530 Principles of Organic Chemistry (Only for Fall)
CHEM 3570 and 3580 Organic Chemistry for the Life Sciences (must take both,
CHEM 3570 alone will not fulfill the requirement.)
CHEM 3590 and 3600 Organic Chemistry (must take both, CHEM 3590 alone will not
fulfill the requirement.)

Organic Chemistry Lab
Choose one of the following:
CHEM 2510 Introduction to Experimental Organic Chemistry OR
CHEM 3010 Experimental Chemistry

Physics
PHYS 1101 General Physics I OR
PHYS 2207 Fundamentals of Physics I

In addition, students interested in pre-health tracks or graduate study in prephysical therapy/exercise sciences should take one of the following:
PHYS 1102 General Physics II OR
PHYS 2208 Fundamentals of Physics II
II. Requirements in the Major

39–42 Credits

A. Biology Foundation Courses

(38 credits)

II.A.1. Introductory Biology Lecture and Lab

Choose two out of three from the following lecture options:

- BIOG 1500 Investigative Biology Lab (F/S, 2 cr) OR BIOSM 1500 (Su, 3 cr) AND
- BIOG 1440 Introductory Biology: Comparative Physiology (F/S, 3 cr) OR
- BIOG 1445 Comparative Physiology (autotutorial) (F/S, 4 cr)

II.A.2. Physiology

3-4 Credits

NS 3410 Human Anatomy and Physiology (S, 4 cr) OR
BIOAP 3110 Principles of Animal Physiology (F, 3 cr)

II.A.3. Biochemistry

4-6 Credits

Choose one of the following:

- NS 3200 Introduction to Human Biochemistry (F, 4 cr)
- BIOMG 3300 Principles of Biochemistry (auto-tutorial) (F/S, 4 cr)
- BIOMG 3310 (F, 3 cr) and BIOMG 3320 (S, 2 cr) Principles of Biochemistry
- BIOMG 3310 Principles of Biochemistry (F, 3 cr) and BIOMI 2900 General Microbiology (F/S, 3 cr)
- BIOMG 3330 Principles of Biochemistry (Su, 4 cr)
- BIOMG 3350 Principles of Biochemistry (S, 4 cr)

II.A.4. Biology Electives

6 Credits

(6 additional credits selected from didactic courses in the following areas that relate to human biology and require one year of introductory biology as a pre-req. May not include Special Studies (e.g., NS 4000, 4010, 4020, 4030) or independent research credits (e.g., NS 4990).

- Genetics, recommended (including BIOMG 2800 and 2820)
- Microbiology (including BIOMI 2900, if not used for Biochem req. and VETMI 4310)
- Neurobiology (including BIONB 2210, 2220 and 4280)
- Evolution (may use NS 2750 if not used as a HBHS Selective)
- Cell Biology (including BIOMG 4320)
- Physiology (including BIOAP 4890. May use NS 3410 or BIOAP 3110 if both are taken)
- Biochemistry (may not include BIOMG 3300, 3310, or 3320, 3350, or NS 3200)
- Nutrition (may use NS 3030, 3220, 3310, 3420, 4310, 4315, 4410, 4444 – if these are not used as a HBHS Selective)

B. Survey Course

II.B.1. Introduction to HBHS and Nutrition

NS 1150 Nutrition, Health and Society

3 Credits

C. HBHS Selectives

Students must take a total of 15 credits as broken down in the following three categories. A course cannot be used for more than one category. NS courses count toward 43 required Human Ecology credits.

II.C.1. Social Science Perspective on Health

6+ Credits

NS 2450 Social Science Perspectives on Food and Nutrition (F, 3 cr)
NS 4250 Nutrition Communications and Counseling (S, 3 cr)
NS 4450 // AEM 4450 Toward a Sustainable Global Food System: Food Policy for Developing Countries (F, 3 cr)
NS 4480 Economics of Food and Malnutrition (S, 3 cr)
NS 4500 Public Health Nutrition (S, 3 cr)
NS 4570 // ECON 3910 Health, Poverty, and Inequality: A Global Perspective (even F, 3 cr)
DSOC 2200 Sociology of Health and Ethnic Minorities (F, 3 cr)
DSOC 3111 // BSOC 3111 // SOC 3130 // STS 3111Sociology of Medicine (S, 4 cr)
HD 2180 Human Development: Adulthood and Aging (F, 3 cr)
HD 2510 Social Gerontology: Aging and the Life Course (S, 3 cr)
HD 3300 Developmental Psychopathology (F, 3 cr)
HD 3490 Positive Psychology (S, 3 cr)
HD 3620 Human Bonding (S, 3 cr)
HD 3700 // PSYCH 3250 Adult Psychopathology (S, 3 cr)
HD 4570 // SOC 4570 Health and Social Behavior (F, 3 cr)
HD 4770 Psychopathology in Great Works of Literature (S, 3 cr)
PAM 2350 The U.S. Health Care System (F, 3 cr)
PAM 3110 Pharmaceutical Management and Policy (F, 3 cr)
PAM 3280 Fundamentals of Population Health (F, 3 cr)
PAM 3780 Sick Around the World? Comparing Health Care Systems Around the World (S, 3 cr)
PAM 4280 // ECON 3710 Economics of Risky Health Behaviors (S, 4 cr)
PAM 4370 // ECON 3720 Economics of Health Care Markets (F, 3 cr)

II.C.2. Natural Science Perspective on Health

6+ Credits

NS 2750 Human Biology and Evolution (F, 3 cr)
NS 3030 Nutrition, Health and Vegetarian Diets (S, 3 cr)
NS 3060 Nutrition and Global Health (odd F, 3 cr)
NS 3150 Obesity and Regulation of Body Weight (even S, 3 cr)
NS 3220 Maternal and Child Nutrition (odd S, 3 cr)
NS 3310 Nutrient Metabolism (S, 4 cr)

07.20.17  2017-18
Credits

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<th>Course</th>
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<tr>
<td>NS 3320 Methods in Nutritional Sciences</td>
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<td>NS 3450 Introduction to Physiochemical and Biological Aspects of Food</td>
<td>3 cr</td>
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<td>NS 4310 Mineral Nutrition and Chronic Disease</td>
<td>3 cr</td>
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<td>NS 4410 Nutrition and Disease</td>
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<td>NS 4420 Implementation of Nutrition Care</td>
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<td>NS 6140 Topics in Maternal and Child Nutrition</td>
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<td>NS 6310 Micronutrients: Function, Homeostasis and Assessment</td>
<td>2-4 cr</td>
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<td>NS 6320 Regulation of Macronutrient Metabolism</td>
<td>4 cr</td>
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<tr>
<td>HD 2200 The Human Brain and Mind: Biological Issues in Human Development</td>
<td>3 cr</td>
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<tr>
<td>HD 3250 Neurochemistry of Human Behavior</td>
<td>3 cr</td>
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<td>HD 3660 Affective and Social Neuroscience</td>
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<td>HD 4780 Attention Deficit/Hyperactivity Disorder in Children</td>
<td>3 cr</td>
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<td>BIOMG 4390 Molecular Basis of Disease</td>
<td>3 cr</td>
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<td>BIOMI 2500 Public Health Microbiology</td>
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<td>BIOMI 2600 Microbiology of Human Contagious Diseases</td>
<td>3 cr</td>
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<tr>
<td>BIOMI 3210 Human Microbes and Health</td>
<td>3 cr</td>
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<tr>
<td>FSAD 4390 Biomedical Materials and Devices for Human Body Repair</td>
<td>3 cr</td>
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<tr>
<td>PLPPM 2950 Biology of Infectious Disease</td>
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II.C.3. Nutritional Science Perspective on Health 3+

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III. Electives Variable

IV. Physical Education 2

Physical Education must be completed in order to graduate. However, physical education does not count toward college and university minimum credit requirements for full-time status, nor does it count towards the 120 credits required for graduation.

Total Credits (exclusive of PE) 120

College Requirements:

- **Students must complete a minimum of 9 HUMEC credits outside of NS/HBHS.** These credits are given for any Human Ecology course outside your major from Category I, II, or III. These can be taken S/U only if course is NOT used to fulfill a curriculum requirement.

- **Students must complete a minimum of 43 HUMEC credits.** Hum Ec credits are given in Category I (distribution), Category II (in your major) and Category III (electives).

- **HE non-departmental courses** at the 2000-level and below do not count toward the 43 HE credits.

- **Biology & Society (BSOC) courses do not count** as Human Ecology credit or towards the 9 HE credits outside the major.

- **Pass/Fail Courses [S/U]**
  - S/U grading option may NOT be used for any required course [i.e., distribution requirements in Category I or major courses in Category II] unless it is the only grade option offered for those courses.
  - S/Us MAY be used for the 9 credits of Human Ecology coursework outside of the major and for electives in Category III.
  - Students may apply no more than 12 credits of S/U towards graduation requirements. If a required course is only offered S/U, it will not count towards this limit. Students may take more S/Us if they choose, but the additional credit will not be applied towards graduation.
  - The **deadline for changing grade options is the 57th calendar day of the semester**, the same as the “drop” deadline.

- **Special Study Courses [4000, 4010, 4020, 4030]**
  - A total of 12 credits of special study course work from Human Ecology or other colleges will count towards the 120 graduation credit requirement. [Additional credits can be taken but will not be applied.]
  - A maximum of three credits of 4000-4020 (not including 4030) may count towards the “credit outside the major” category as long as the special study is in a department outside the student’s major.
  - Students cannot TA (4030) the same course for credit more than once or take and TA the same course simultaneously. 4030 does not fulfill any requirements towards the major. Registration for 4030 may not exceed 5 credit hours per semester.

- **Students must complete 120 credits overall, exclusive of physical education and “00” courses.**

- **Elective credits can be earned in Human Ecology or elsewhere.**