Human Biology, 2016-2017
Health & Society

The requirements listed below pertain to all students matriculating in August 2016 and January 2017.

I. Distribution Requirements

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

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

   Anthropology
   ANTHR 1400 Introduction to Anthropology: 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
   Credits
   Recommended: Ethics, Philosophy
   Language credit may not be counted here.

   Includes literature, history (including art and design history), philosophy, religion, and archaeology. Critical, historical, and theoretical studies of the arts and design are considered humanities. Languages and creative or performing arts such as the writing of fiction or poetry, painting, sculpting, designing, composing or performing music, acting, directing, and dance are not considered humanities.

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

E. Quantitative and Analytical
   Credits
   a. Either Statistics or Calculus must be taken at Cornell unless you have earned a score of 3 or higher on AP Calculus BC.
   b. Once the above requirement is met other AP credit from Calculus AB (a score of 3 or higher) 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
   Courses from any natural science, social science, humanities, or mathematics courses can be counted here for remaining credits.

   Organic Chemistry Lecture (6-credit minimum for premeds)
   Choose one of the following sequences:
   CHEM 1570 Elementary Organic Chemistry (Only for Spring, not for premeds)
   CHEM 3530 Principles of Organic Chemistry (Only for Fall)
   CHEM 3570 and 3580 Introductory Organic Chemistry (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
   CHEM 3010 Experimental Chemistry

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

   In addition, if premed or interested in graduate study in prephysical therapy/exercise sciences, then take one of the following:
   PHYS 1102 General Physics II OR
   PHYS 2208 Fundamentals of Physics
II. Requirements in the Major

A. Biology Foundation Courses
(NS courses count toward 43 required HUMEC credits)

II.A.1. Introductory Biology Lecture and Lab
BIOG 1500 Investigative Lab (F/S, 2 cr)

AND
Choose two out of three from the following lecture options:

(a) BIOG 1350 Cell and Development (F/S, 3 cr)
(b) BIOG 1440 Comparative Physiology (F/S, 3 cr)
OR* BIOG 1445 Comparative Physiology (autotutorial) (F/S, 4 cr)
(c) BIOEE 1610 Ecology and the Environment (F/S, 3 cr)
OR* BIOEE 1780 Evolution and Diversity (F/S, 3 cr)

*Cannot take both to fulfill this requirement

II.A.2. Physiology
NS 3410 Human Anatomy and Physiology (S, 4 cr) OR
BIOAP 3110 Animal Physiology (F, 3 cr)

II.A.3. Biochemistry
Choose one of the following:
NS 3200 Introduction to Human Biochemistry (F, 4 cr)
BIOG 3300 Principles of Biochemistry (F/S, 4 cr)
BIOG 3310 (F, 3 cr) and BIOG 3320 (S, 2 cr) Principles of Biochemistry
BIOG 3310 Principles of Biochemistry (F, 3 cr) and BIOI 2900 General Microbiology (F/S, 3 cr)
BIOG 3330 Principles of Biochemistry (Su, 4 cr)
BIOG 3350 Principles of Biochemistry (S, 4 cr)

II.A.4. Biology Electives
(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 BIOG 2800 and 2820)
- Microbiology (including BIOI 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 BIOG 4320)
- Physiology (including BIOAP 4890. May use NS 3410 or BIOAP 3110 if both are taken)
- Biochemistry (may not include BIOG 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

C. HBHS Selectives: Students must take a total of 15 credits as broken down in the following three categories and are encouraged to choose at least one course on development (+), policy (*), and professional problem-solving (*). A course cannot be used for more than one category.

II.C.1. Social Science Perspective on Health

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 Health, Poverty, and Inequality: A Global Perspective (alt F, 3 cr)
HD 2180 Human Development: Adulthood and Aging (S, 3 cr)
HD 2510 Social Gerontology: Aging and the Life Course (S, 3 cr)
HD 3300 Developmental Psychopathology (S, 3 cr)
HD 3490 Positive Psychology (F, 3 cr)
HD 3620 Human Bonding (S, 3 cr)
HD 3700/PSYCH 3250 Adult Psychopathology (S, 3 cr)
HD 4570 Health and Social Behavior (alt F, 3 cr)
HD 4590 Life Transitions Across the Life Span (F, 3 cr)
HD 4770 Psychopathology in Great Works of Literature (F, 3 cr)
PAM 2350 The U.S. Health Care System (F, 3 cr)
PAM 3110 Pharmaceutical Management and Policy (S, 3 cr)
PAM 3240 Risk 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 Economics of Risky Health Behaviors (F, 3 cr)
PAM 4370 Economics of Health Care Markets (S, 3 cr)
PAM 4380 Economics of Public Health (S, 3 cr)
DSOC 2200 Sociology of Health and Ethnic Minorities (F, 3 cr)
DSOC 3111 Sociology of Medicine (S, 4 cr)

II.C.2. Natural Science Perspective on Health

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 (alt F, 3 cr)
NS 3150 Obesity and Regulation of Body Weight (alt S, 3 cr)
NS 3220 Maternal and Child Nutrition (alt S, 3 cr)
NS 3310 Nutrient Metabolism (S, 4 cr)
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<tr>
<td>^ NS 3320 Methods in Nutritional Sciences (F, 3 cr)</td>
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<td>NS 3450 Introduction to Physiochemical and Biological Aspects of Food (F, 3 cr)</td>
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<td>NS 4310 Mineral Nutrition and Chronic Disease (F, 3 cr)</td>
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<td>NS 4315 Nutrient Requirements and Recommendations: Biological Aspects (S, 3 cr)</td>
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<td>NS 4410 Nutrition and Disease (F, 4 cr)</td>
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<td>^ NS 4420 Implementation of Nutrition Care (F, 3 cr)</td>
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<td>NS 4444 Sports Nutrition and Supplements, Concepts and Evidence (S, 3 cr)</td>
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<td>NS 6140 Topics in Maternal and Child Nutrition (F, 3 cr)</td>
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<td>NS 6310 Micronutrients: Function, Homeostasis and Assessment (F, 2-4 cr)</td>
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<td>NS 6320 Regulation of Macronutrient Metabolism (S, 4 cr)</td>
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<td>HD 2200 The Human Brain and Mind: Biological Issues in Human Development (F, 3cr)</td>
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<td>HD 3250 Neurochemistry of Human Behavior (S, 3cr)</td>
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<td>+ HD 3440 Infant Behavior and Development (F, 3cr)</td>
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<td>HD 3660 Affective and Social Neuroscience (S, 3 cr)</td>
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<td>HD 4780 Attention Deficit/Hyperactivity Disorder in Children (alt S, 3 cr)</td>
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<td>FSAD 4390 Biomedical Materials and Devices for Human Body (F, 3 cr)</td>
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<td>BIOMI 2500 Public Health Microbiology (F, 3 cr)</td>
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<td>PLPA 2950 Biology of Infectious Disease (F, 3 cr)</td>
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<td>BIOMI 3210 Human Microbes and Health (S, 3 cr)</td>
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| II.C.3. Nutritional Science Perspective on Health | 3+ |
| NS 3030 Nutrition, Health and Vegetarian Diets (S, 3 cr) |
| NS 3150 Obesity and Regulation of Body Weight (alt S, 3 cr) |
| NS 3220 Maternal and Child Nutrition (alt S, 3 cr) |
| NS 4310 Mineral Nutrition and Chronic Disease (F, 3 cr) |
| NS 4315 Nutrient Requirements and Recommendations: Biological Aspects (S, 3 cr) |
| NS 4410 Nutrition and Disease (F, 4 cr) |
| NS 4420 Implementation of Nutrition Care (F, 3 cr) |
| NS 4444 Sports Nutrition and Supplements, Concepts and Evidence (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) |

| 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