

# Nutritional Sciences

2023-2024

The requirements listed below pertain to all students matriculating in August 2023 and January 2024.

All of the following sections are required to be completed to graduate.

Courses in areas 1-13 must be taken for a Letter Grade.

Overall Credits (REQUIRED)		
Total: 120 credits	Human Ecology: 43 credits (courses from DEA, FSAD, HD, NS, PUBPOL at any level or HE at the 3000/4000 level)	Human Ecology, outside the major: 9 credits (from DEA, FSAD, HD, PUBPOL any level, or HE at the 3000/4000 level)

**1. Nutritional Sciences Core Courses** (16 credits)

- NS 1150 Nutrition, Health and Society (3 cr)
- NS 2450 Social Science Perspective on Food and Nutrition (3 cr)
- NS 3450 Introduction to Physiochemical and Biological Aspects of Food (3 cr)
- NS 3310 Nutrient Metabolism (4 cr)
- NS 3320 Methods in Nutritional Sciences (3 cr)

**2. Advanced Electives in Nutrition** (9+ credits)

At least 9 credits of NS courses at the 3000 level or above (see below for NS courses at the 3000/4000 level organized by area of interest).

**Notes:**

- May include NS 3410 only if BIOAP 3110 is used to fulfill the physiology requirement.
- May include no more than a total of 3 credits from NS 4000 Directed Readings, NS 4010 Empirical Research, 4020 Supervised Fieldwork, and NS 4990 Honors Research.
- May not include NS 3200, NS 3980, NS 4620, or NS 4030 Teaching Apprenticeship.

*Economic Influences on Human Nutrition*

- NS 3060 Nutrition and Global Health (3 cr)
- NS 4450 / 6455, AEM 4450 / 6455 Toward a Sustainable Global Food System: Food Policy for Developing Countries (3 cr)
- NS 4480 / 6480 Economics of Food and Malnutrition (3 cr)
- NS 4570 Health, Poverty, and Inequality: A Global Perspective (3 cr)

*Nutrition and Public Health*

- NS 3600 Epidemiology (3 cr)
- NS 4300 Proteins, Transcripts, and Metabolism: Big Data in Molecular Nutrition (3 cr)
- NS 4500 Public Health Nutrition (3 cr)
- NS 4600 Explorations in Global Health (3 cr)

*Food Quality and Food Service Management*

- NS 4880 Applied Dietetics in Foodservice Systems (4 cr)

*Human Health and Nutrition*

- NS 3150 / PSYCH 3150 Obesity and the Regulation of Body Weight (3 cr)
- NS 3420 Human Anatomy and Physiology Laboratory (2 cr)
- NS 4200 Diet and the Microbiome (3 cr)
- NS 4410 Nutrition and Disease (4 cr)
- NS 4420 Implementation of Nutrition Care (3 cr; *enrollment restricted – priority to Dietetics students*)
- NS 6140 Topics in Maternal and Child Nutrition (3 cr)

*Nutritional Biochemistry*

- NS 4300 Proteins, Transcripts, and Metabolism: Big Data in Molecular Nutrition (3 cr)
- NS 6310 Micronutrients: Function, Homeostasis and Assessment (2-4 cr)
- NS 6320 Regulation of Macronutrient Metabolism (4 cr)

*Psychological and Social Influences on Human Nutrition*

- NS 4250 Nutrition Communications and Counseling (3 cr)

### 3. Introductory Chemistry (8 credits)

Choose **one** of the following options:

- (a) **CHEM 2070** General Chemistry I (4 cr) and **CHEM 2080** General Chemistry II (4 cr) <sup>1</sup>
- (b) (AP Chemistry score of 5 or IB HL Chemistry score of 6 or 7) and **CHEM 2080** General Chemistry II (4 cr) <sup>2</sup>
- (c) (AP Chemistry score of 5 or IB HL Chemistry score of 6 or 7) and **CHEM 2150** Honors General and Inorganic Chemistry (4 cr)<sup>3</sup>

<sup>1</sup> *Recommended for nearly all students, especially those on or considering a pre-health (e.g. pre-med) track.*

<sup>2</sup> *Students may use an AP Chemistry score of 5 or an IB HL Chemistry score of 6 or 7 to place out of CHEM 2070. Pre-health (e.g. pre-med) students should not use AP scores to fulfill chemistry requirements. Students who take CHEM 2070 forfeit AP or IB credit.*

<sup>3</sup> *Students should only select option (c) if they are very strong in chemistry and are not considering a pre-health (e.g. pre-med) track.*

### 4. Introductory Biology (8 credits)

Choose **one** of the following labs:

- (a) **BIOG 1500** Investigative Lab (2 cr) **OR**
- (b) **BIOSM 1500** Investigative Marine Biology Lab 3 cr)

**AND** choose **two out of the three** lecture options<sup>1</sup>:

- (a) **BIOMG 1350** Cell and Development (3 cr)
- (b) **BIOG 1440** Comparative Physiology (3 cr) **OR**<sup>2</sup>  
**BIOG 1445** Comparative Physiology (autotutorial) (4cr)
- (c) **BIOEE 1610** Ecology and the Environment (3 cr) **OR**<sup>2</sup>  
**BIOEE 1780** Evolution and Diversity (3 cr)

<sup>1</sup> *Students may use an AP Biology score of 5 or IB HL Biology score of 7 to place out of one introductory biology lecture. Pre-health (e.g. pre-med) students should not use AP scores to fulfill biology requirements.*

<sup>2</sup> *Cannot take both courses within one category to fulfill this requirement*

### 5. Organic Chemistry Lecture (3-8 credits)<sup>1</sup>

Choose **one** of the following:

- (a) **CHEM 1570** Elementary Organic Chemistry (3 cr, *not for pre-health*) **OR**
- (b) **CHEM 3530** Principles of Organic Chemistry (4 cr) **OR**
- (c) **CHEM 3570** Organic Chemistry for the Life Sciences I (3 cr) **AND CHEM 3580** Organic Chemistry for the Life Sciences II (3 cr) **OR**<sup>1</sup>
- (d) **CHEM 3590** Honors Organic Chemistry I (4 cr) **AND CHEM 3600** Honors Organic Chemistry II (4 cr)<sup>2</sup>

<sup>1</sup> *Students interested in pre-health tracks should take a two-course sequence of organic chemistry lectures (option c or d above).*

<sup>2</sup> *Students who select options c or d above must take both courses in sequence; one course alone will not fulfill requirement).*

### 6. Organic Chemistry Lab (2-4 credits)

- (a) **CHEM 2510** Introduction to Experimental Organic Chemistry (2 cr) **OR**
- (b) **CHEM 3010** Honors Experimental Chemistry (4 cr)

### 7. Physiology (3-4 credits)<sup>1</sup>

Choose **one** of the following:

- (a) **NS 3410** Human Anatomy and Physiology (4 cr) **OR**
- (b) **BIOAP 3110** Animal Physiology (3 cr)

<sup>1</sup> *Pre-health students might also consider taking NS 3420 Human Anatomy and Physiology Lab (2 cr).*

### 8. Biochemistry (4-6 credits)

Choose **one** of the following:

- (a) **NS 3200** Introduction to Human Biochemistry (4 cr) **OR**
- (b) **BIOMG 3300** Principles of Biochemistry (4 cr) **OR**
- (c) **BIOMG 3310** Principles of Biochemistry: Proteins and Metabolism (3 cr) **AND BIOMG 3320** Principles of Biochemistry: Molecular Biology (2 cr) **OR**
- (d) **BIOMG 3310** Principles of Biochemistry: Proteins and Metabolism (F, 3 cr) **AND BIOMI 2900** General Microbiology (3 cr) **OR**
- (e) **BIOMG 3330** Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (4 cr) **OR**
- (f) **BIOMG 3350** Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (4 cr)

**9. First Year Writing Seminars** (6 credits)

**Note:** The **2 required first year writing seminar courses** must be completed during the first two semesters at Cornell.

**10. Social Sciences** (6 credits)

Choose **one** course in any **two** of the following four areas:

*Anthropology*

**ANTHR 1400** The Comparison of Cultures (3 cr)

*Economics*

**ECON 1110** Introductory Microeconomics (3 cr)

**ECON 1120** Introductory Macroeconomics (3 cr)

*Psychology*

**HD 1120** People in Perspective: Brain, Mind, Society (3 cr)

**HD 1130** Introduction to Human Development (3 cr)

**PSYCH 1101** Introduction to Psychology (3 cr)

*Sociology*

**SOC 1101** Introduction to Sociology (3 cr)

**11. Humanities** (3-4 credits)

Choose any course with the Course Distribution Historical Analysis (HA), Literature and the Arts (LA), or Cultural Analysis (CA).

**12. Calculus/Advanced Math** (3-4 credits)

Choose **one** of the following:

(a) **MATH 1105** Finite Mathematics for the Life and Social Sciences (3 cr)

(b) **MATH 1106** Calculus for the Life and Social Sciences (3 cr)

(c) **MATH 1110** Calculus I (4 cr)

(d) **MATH 1120** Calculus II (4 cr)

(e) A score of **4 or higher** on the AB or BC Calculus AP Exam\*

\* See below under Statistics.

**13. Statistics** (3-4 credits)

Choose **one** of the following:

(a) **STSCI 2150** Introductory Statistics for Biology (4 cr) (*recommended*)<sup>1</sup> **OR**

(b) **PUBPOL 2100** Introduction to Statistics (4 cr) **OR**

(c) **AEM 2100** Introductory Statistics (4 cr) **OR**

(d) **BTRY 3010** Biological Statistics I (4 cr) **OR**

(e) **ILRST/STSCI 2100** Introductory Statistics (4 cr) **OR**

(f) **MATH 1710** Statistical Theory and Application in the Real World (4 cr) **OR**

(g) **PSYCH 2500** Statistics and Research Design (3-4 cr) **OR**

(h) **SOC 3010** Statistics for Sociological Research (4 cr)

(i) A score of **4 or 5** on the Statistics AP Exam<sup>2</sup>

<sup>1</sup> Students planning to take NS 3600 Epidemiology must take either STSCI 2150 or BTRY 3010.

<sup>2</sup> DNS students must take either Calculus/Advanced Math or Statistics at Cornell unless they have earned a score of 4 or 5 on the BC Calculus AP Exam. Students in this case may use AP credit from each exam for both Calculus/Advanced Math and Statistics.

**14. Electives** (Variable)

Any courses that are not taken in Areas 1-13 above, count as Electives.

**Students interested in pre-health tracks or graduate study in biological/medical/exercise sciences should take:**

PHYS 1101 and 1102 General Physics (auto-tutorial) **OR**

PHYS 2207 and 2208 Fundamentals of Physics

**15. Physical Education Requirement** (2 courses)

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.

**16. Swim Test Requirement**

A successful swim test must be completed in order to graduate.

## College Policies:

- **120 Overall Credits**
  - Students must complete 120 credits toward graduation.
  - A maximum of 15 credits of AP credit and in absentia credit can count towards the 120 total credits.
  - 15 credits of Study Abroad/Exchange, Cornell-In-Washington, or 12 credits of Capital semester can count towards total electives.
- **43 HE Credits**
  - Students must complete a minimum of 43 HE credits.
  - HE non-departmental courses at the 2000-level and below do not count toward the 43 HE credits, unless otherwise noted.
  - Students must enroll in a minimum of one 3-credit course each semester in HE for their first four semesters, excluding winter and summer sessions (beginning with students entering in fall 2022).
- **9 HE Credits outside the major**
  - Students must complete a minimum of 9 HE credits outside of NS. These credits are given for any Human Ecology course outside your major (except 4030). These can be taken S/U only if course is NOT used to fulfill a curriculum requirement [Areas 1-13].
- **Pass/Fail Courses [S/U]**
  - S/U grading option may NOT be used for any required course [Areas 1-13] unless it is the only grade option offered for those courses.
  - S/Us MAY be used for the 9 HE Credits outside the major and for electives in Area 14.
  - 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 57<sup>th</sup> calendar day of the semester**, the same as the “drop” deadline.
- **Special Study Courses [4000, 4010, 4020, 4030]**
  - A maximum of 12 credits of special study course work from Human Ecology or other colleges will count towards the 120 overall credits (e.g. DNS special studies course work includes NS 4000, 4010, 4020, and 4030). Courses will be indicated on the class roster with a Component of either IND or RSC. [Additional credits can be taken but will not be applied.]
  - A maximum of 12 credits of 4000-4030 may count toward the 43 HE credit requirement.
  - A maximum of 3 credits of 4000-4020 (not including 4030) may count towards the 9 credits outside the major requirement 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.