Choosing NS Undergraduate Courses

When selecting NS courses, consider your personal interests and professional goals. Focusing your selections around a specific issue can result in a more concentrated experience and greater depth of understanding of that particular issue. The clusters of NS courses below may help you begin to plan your selections:

Global Perspectives on Human and Health
- NS 2600 Introduction to Global Health
- NS 3060 Nutrition and Global Health
- NS 4450 Toward a Sustainable Global Food System: Food Policy for Developing Countries (also AEM 4450)
- NS 4570 Health, Poverty, and Inequality: A Global Perspective (also ECON 3910)
- NS 4600 Explorations in Global and Public Health – restricted to students in Global Health minor

Epidemiology and Public Health
- NS 1600 Introduction to Public Health
- NS 3600 Epidemiology
- NS 4500 Public Health Nutrition

Food Quality
- NS 2470 Food for Contemporary Living
- NS 3450 Introduction to Physicochemical and Biological Aspects of Foods (also FDSC 2000)
- NS 4880 Applied Dietetics in Food Service Systems

Human Health and Nutrition
- NS 1150 Nutrition, Health, and Society
- NS 1220 Nutrition and the Life Cycle
- NS 2750 Human Biology and Evolution (also ANTHR 2750)
- NS 3030 Nutrition, Health and Vegetarian Diets
- NS 3150 Obesity and the Regulation of Body Weight (also PSYCH 3150)
- NS 3220 Maternal and Child Nutrition
- NS 3410 Human Anatomy and Physiology
- NS 3420 Human Anatomy and Physiology Laboratory
- NS 4315 Nutrient Requirements and Recommendations: Biological Aspects
- NS 4410 Nutrition and Disease
- NS 4420 Implementation of Nutrition Care
- NS 4444 Sports Nutrition and Supplements: Concepts and Evidence

Nutritional Biochemistry
- NS 3200 Introduction to Human Biochemistry
- NS 3310 Nutrient Metabolism
- NS 3320 Methods in Nutritional Sciences
- NS 4310 Mineral Nutrition and Chronic Disease
- NS 4900 Manipulating the Mouse Genome

Psychological and Social Influences on Human Nutrition
- NS 2450 Social Science Perspectives on Food and Nutrition
- NS 4250 Nutrition Communications and Counseling

7/15 NS course clusters
See NS/HUMEC graduation requirements at [http://www.human.cornell.edu/registrar/degree-progress/curriculum-sheets.cfm](http://www.human.cornell.edu/registrar/degree-progress/curriculum-sheets.cfm)

It is the student’s responsibility to understand and to meet college and major graduation requirements.

1. **NATURAL SCIENCES**
   - Introductory biology, 8 cr [BIOG 1500 plus two introductory biology lectures]
   - Introductory chemistry, 8 cr [CHEM 2070-2080]
   - Organic chemistry lecture, 3-8 cr [CHEM 3570-3580, 3530, 1570 (not for pre-med), or 3590-3600]
   - Organic chemistry lab, 2-4 cr [CHEM 2510 or 3010]
   - Physiology, 3-4 cr [NS 3410(4)] or [BIOAP 3110(3)]
   - Biochemistry, 4-6 cr [NS 3200(4), [BIOMG 3300(4)], [BIOMG 3310(3) + BIOMG 3320(2)], or [BIOMG 3310(3) + BIOMI 2900(3)], [BIOMG 3350(4)] or [BIOIM 3330 (4)]
   - No additional credit for NS 3200 if the above biochemistry courses are taken to fulfill biochemistry requirement, and vice versa.

   **For special career interests:**
   - **Premed:** Organic chemistry lecture, CHEM 3570-3580 [6 cr] and Physics, PHYS 1101-1102 or 2207-2208 [8 cr]
   - **Dietetics:** Microbiology, BIOMI 2900 [3 cr] AND Human Anatomy and Physiology lab, NS 3420 [2 cr] in addition to NS 3410.
   - **Exercise science:** Both NS 3410 [4 cr] AND NS 3420 [2 cr]. Strongly recommend: Physics, 8 cr. [PHYS 1101-1102 or 2207-2208]

2. **NUTRITIONAL SCIENCES**  [Count toward 43 required CHE credits. Letter grade only]
   - **Core courses,** 16 cr: NS 1150 Nutrition, Health and Society [Fall, 3 cr]
   - NS 2450 Social Science Perspectives on Food and Nutrition [Fall, 3 cr]
   - NS 3450 Introduction to Physiochemical and Biological Aspects of Foods [Fall, 3 cr]
   - NS 3310 Nutrient Metabolism [Spring, 4 cr]
   - NS 3320 Methods in Nutritional Sciences [Fall, 3 cr]

   **Advanced electives in Nutritional Sciences**, 9 cr NS courses at 3000 level or above. May include only 3 cr of NS 4000, 4010, 4020, or 4990. May include NS 3410 **only if** BIOAP 3110 is taken to meet physiology requirement. May **not** include NS 3200, NS 3980, NS 4620, and NS 4030 (TA).

   **For dietetics:** Additional dietetics NS courses at 3000 or above will be counted toward this requirement.

3. **SOCIAL SCIENCES and HUMANITIES**
   - **Social Sciences:** 6 cr. From the following four areas, choose 1 course from any 2 areas:
     - **Economics** [ECON 1110* or ECON 1120*]
     - **Psychology** [HD 1150* or HD 1170* or HD 1100* or PSYCH 1101]
     - **Anthropology** [ANTHR 1400]
     - **Sociology** [DSOC 1101 or SOC 1101]

   **Note:** ECON 1110 & 1120 count as HUMEC courses. **For dietetics:** Psychology is required. *HUMEC courses taken to meet this Social Science requirement may be used toward college’s requirements of both 9 cr outside major and 43 HUMEC credits.

   **Humanities:** 3 cr. Includes literature, history, philosophy, religion, and archaeology. Critical, historical, and theoretical studies of arts and design are included. Does not include language, creative, or performing arts (e.g. fiction or poetry writing, composing or performing music, acting, dancing, directing, or painting)

4. **WRITTEN COMMUNICATIONS**
   - First Year Writing Seminars: 6 cr  **(MUST BE COMPLETED DURING FIRST 2 SEMESTERS OF FRESHMAN YEAR)**

5. **QUANTITATIVE & ANALYTICAL**
   - **Calculus or Advanced Math:** 3 -4 cr. Select from Math 1105 [3], MATH 1106[4], MATH 1110[4], MATH 1120 [4], or AP BC score 3 or above.
   - **Statistics:** 4 cr. Select from STSCI 2150 [4], AEM 2100 [4], BTRY 3010 [4], MATH 1710 [4], SOC 3010 [4], or PSYCH 3500 [4], PAM 2100 [4], STSCI 2100/ILRST 2100 [4]

   **One of them must be taken at Cornell unless you have earned a score of 3 or above on AP calculus BC. AP AB score 3 or higher and AP statistics can be used once the above requirement is met.**

6. **HUMAN ECOLOGY (HUMEC) outside NS**
   - 9 cr selected from HUMEC courses not in NS as per college requirements. May not include HE 1000, 1001, 2010, or any 4030 course. Maximum 3 credits of 4000, 4010, and 4020 may be applied. 8 credits of Urban Semester and 7 credits of Capital Semester may be applied.

7. **OTHER & Elective courses to bring academic credits to 120.**
   - Student must complete 43 HUMEC credits across all categories of graduation requirements. Up to 12 credits of NS 4000, 4010, 4020, 4030 may be applied to 43 HUMEC and 120 Cornell credits. See Human Ecology Curriculum Sheets for detail college requirements. All required courses must be taken as a letter grade.
FALL -- FRESHMAN
• CHEM 2070 (F only)
• BIOG 1500 and/or one lecture course; Optional
• CHEM or BIOG support courses as needed
• NS 1150 (F only)
• NS 1160 (F only, highly recommended)
• First year writing seminar
• Other requirements if bio postponed (HD 1150, HD 1100, PSYCH 1101, ECON 1110, ECON 1120, DEA 1110, DSOC 1101) (For dietetics will need PSYCH 1101, HD 1100, or HD 1150)

SPRING -- FRESHMAN  By the end of the Spring semester, must complete a total of at least 5 CHE credits
• CHEM 2080 (S only)
• One bio lecture and BIOG 1500 if not taken; Optional.
• CHEM or BIOG support courses as needed
• First year writing seminar
• NS 1200 (1 cr, S only); NS 1220 (required for dietetics, S only); NS 2470 (F/S, required for dietetics, or in sopho yr)
• HE course to meet social science requirement or as elective (ECON 1110/1120, or other) or a class for math requirement.

FALL -- SOPHOMORE
• BIOG 1500 and/or one lecture course if not taken.
• NS 2450 (F only; Pre-req: NS 1150)
• NS 3450 (F only; Pre-reqs: biology & chemistry & orgo (or concurrent; Or junior)
• CHEM 3570 (F only, if premed or biochem interest)
• CHEM 2510 (org lab, F/S with 3570 concurrently, or later)
• Requirements in social sciences, humanities, other HE (HD 1150, ECON 1110/1120, or others)
• PHYS 1101/2207 (F only; If premed; Strongly recommended for exercise science; Or junior)
• Math or Statistics course
• Food Service Management (HADM 1360, F/S)- required for dietetics

SPRING -- SOPHOMORE By the end of Spring semester, must complete a total of at least 12 CHE credits
• One bio lecture if not taken
• CHEM 3580 (S only) or CHEM 1570 (S only, if not 3570-3580)
• CHEM 2510 (org lab; F/S; Or later)
• NS 3410 (S only; Or junior)
• NS 3420 (required for dietetics & exercise science minor).
• Requirements in social sciences, humanities, math or statistics
• Advanced nutrition electives
• Food Service Management (HADM 1360) - required for dietetics
• BIOMG 2900 (F/S), if will take BIOMG 3310; Or later
• NS 1200 (S only) if desired
• PHYS 1102 or 2208 (S only: if needed and taken 1101/2207: Or junior)

FALL -- JUNIOR
• NS 3200 (F), BIOMG 3310 (F), or BIOMG 3300 (F/S)
• NS 3450 if not taken (has schedule conflict with BIOMI 2900)
• BIOAP 3110 (F only: If not NS 3410)
• BIOM 2900 (F/S): Required for dietetics; Or senior)
• Food Service Management (HADM1360, if dietetics transfer)
• Advanced nutrition electives (e.g., NS 3060, 4450)
• HE electives, other requirements, or electives (see above)
• Semester abroad or urban semester (if elected)

SPRING -- JUNIOR
• NS 3310 (S only: Or senior: Biochem is a pre-req)
• NS 4250 and 4500 (all S only) if dietetics
• BIOMG 3320 or BIOMI 2900, if took BIOBM 3310, OR BIOMG 3350
• Advanced nutrition electives (NS 3030, 3150 [alt yrs], 4250, 4315, 4444, 4500, 4570, etc.)
• HE electives, other requirements, or electives (see above)
• Semester abroad or urban semester (if elected)
• Food Service Management (HADM1360, if dietetics transfer)

FALL -- SENIOR
• NS 3320 (F only), (prefer NS 3310 in prior)
• NS 4410 (F only); need biochem or instructor’s permission
• NS 4420 (F only) required for dietetics; needs 4410 or concurrently
• Remaining requirements (see above)
• Advanced nutrition electives (e.g., NS 4310, NS 4450, or previously listed courses or selected grad classes)
• Electives to meet personal or career interests (graduate courses with permission)

SPRING -- SENIOR
• NS 4880 (S only, required for dietetics)
• NS 4250 and 4500 if not taken (required for dietetics)
• Remaining requirements (see above)
• Electives to meet personal or career interests (graduate courses with permission)
1. NATURAL SCIENCES

Introductory biology, 8 cr [BIOL 1500 plus two introductory biology lectures]
Introductory chemistry, 8 cr [CHEM 2070-2080]
Organic chemistry lecture, 3-8 cr [CHEM 3570-3580, 3530, 1570 (not for pre-med), or 3590-3600]
Organic chemistry lab, 2-4 cr [CHEM 2510 or CHEM 3010]
Physiology, 3-4 cr [NS 3410(4)] or BIOAP 3110(3)]
Biochemistry, 4-6 cr [NS 3200(4), BIOMG 3300(4), BIOMG 3310(3) + BIOMG 3320(2), or [BIOMG 3310(3) + BIOMI 2900(3)], [BIOMG 3350(4)] or [BIOMG 3330(4)]
No additional credit for NS 3200 if the above biochemistry courses are taken to fulfill biochemistry requirement, and vice versa.

For special career interests:
Premed: Organic chemistry lecture, CHEM 3570-3580 [6 cr] and Physics, PHYS 1101-1102 or 2207-2208 [8 cr]
Dietetics: Microbiology, BIOMI 2900 [3 cr] AND Human Anatomy and Physiology lab, NS 3420 [2 cr] in addition to NS 3410.
Exercise Science: Both NS 3410 [4 cr] AND NS 3420 [2 cr]. Strongly recommend: Physics, 8 cr, [PHYS 1101-1102 or 2207-2208]

2. NUTRITIONAL SCIENCES

Core courses, 16 cr: NS 1150 Nutrition, Health and Society [F,3]
NS 2450 Social Science Perspectives on Food and Nutrition [F,3]
NS 3450 Nutritional and Physicochemical Aspects of Foods [F,3]
NS 3310 Nutrient Metabolism [S,4]
NS 3320 Methods in Nutritional Sciences [F,3]

Advanced electives in Nutritional Sciences, 9 cr NS courses at 3000 level or above. May include only 3 cr of NS 4000, 4010, 4020, or 4990. May include NS 3410 only if BIOAP 3110 is taken to meet physiology requirement. May not include NS 3200, NS 3980, NS 4620, and NS 4030 (TA)

For dietetics: Additional dietetics NS courses at 3000 or above will be counted toward this requirement.

3. SOCIAL SCIENCES and HUMANITIES

12 credits: Four courses of at least 3 credits in 3 different categories of the following 7 categories. Cultural Analysis (CA), Social and Behavioral Analysis (SBA, Foreign Language (FL), Knowledge, Cognition, and Moral Reasoning (KCM), Human Diversity (D) Literature and the Arts (LA), Historical Analysis (HA).

No more than two courses from the same category and one course must be in the Diversity (D).

For dietetics: PSYCH 1101 is required. Check “DUST” for more information about course selection.

4. COMMUNICATION

Written and Oral Expression (9 cr) must include at least 6 cr of written expression; select from First year Seminars, English, and Communications courses as per CALS distribution requirements. Check “DUST” for more information about course selection.

5. QUANTITATIVE & ANALYTICAL

Calculus or Advanced Math: 3 - 4 cr. Select from Math 1105 [3], MATH 1106[4], MATH 1110[4], MATH 1120 [4], BTRY 1150 (4 cr), or a score of 4 or 5 on the AP calculus exam.
Statistics: 4 cr. Select from STSCI 2150 [4], AEM 2100 [4], BTRY 3010 [4], MATH 1710 [4], SOC 3010 [4], PSYCH 3500 [4], PAM 2100 [4], or STSCI 2150/ILRST 2120 [4]

Calculus and higher level math is generally needed for premed or grad study.

6. ELECTIVES IN AGRICULTURE & LIFE SCIENCES

9 cr from ANY of the following areas selected with faculty advisor to support student’s interests and goals. (These courses MAY NOT also be applied to Social Science, Humanities, Communication, Math/Statistics, or other College’s distribution requirements (3-5 above)). Areas of elective study:
Food Production and Marketing: courses in Food Science; Animal Science; Plant Science; Biological and Environmental Engineering; International Agriculture and Rural Development. (FOOD 150 may NOT be used because is redundant with NS 1150.)
Food Policy: courses in Applied Economics and Management; Developmental Sociology; and International Agriculture and Rural Development, Plant Breeding.
Life sciences: courses in Biological Sciences, Plant Sciences, Animal Science, Horticulture, Plant Breeding and Genetics, and Plant Pathology. (MAY NOT include introductory biology, physiology, or biochemistry courses used for Natural Sciences requirement. MAY include BIOAP 3110 only if NS 3410 is used for physiology requirement. MAY include BIOMI 2900 if other biochemistry courses are taken to meet biochemistry requirement.)
Environment: courses in Natural Resources; Crop and Soil Sciences; and Applied Economics and Management
FALL -- FRESHMAN
• CHEM 2070 (F only)
• BIOG 1500 and/or one lecture course; Optional
• CHEM or BIOG support courses as needed
• NS 1150 (F only)
• NS 1160 (F only, recommended)
• First year writing seminar
• Other requirement if bio postponed: check “DUST” to see what courses are available for “Humanities and Social Sciences” requirement; PSYCH 1101: needed for dietetics

SPRING -- FRESHMAN
• CHEM 2080 (S only)
• One bio lecture and/or BIOG 1500 if not taken; Optional.
• CHEM or BIOG support courses as needed
• First year writing seminar
• NS 1200 (1 cr, S only); NS 1220 (required for dietetics, S only); NS 2470 (F/S, required for dietetics; Or in sophomore yr)
• Other requirements (social science, humanities, math or statistic: Check DUST)

FALL -- SOPHOMORE
• BIOG 1500 and/or one lecture if not taken
• NS 2450 (F only; Pre-req: NS 1150)
• NS 3450 (F only; Pre-reqs: biology & chemistry & orgo (or concurrent, Or junior)
• CHEM 3570 (F only, if premed or biochem interest)
• CHEM 2510 (org lab, F/S with 3570 concurrently, or later)
• Requirements in communications, humanities, social sciences, math or statistics (For dietetics: statistics and PSYCH 1101 required)
• Agriculture and life sciences electives (outside major within the college)
• Physics, 1101/2207 (F only, if premed. Strongly recommended for exercise science; or may be junior yr)

SPRING -- SOPHOMORE
• One bio lecture if not taken.
• Chem 3580 (S only, if have 3570) or Chem 1570 (S only, if not 3570-3580)
• Chem 2510 (F/S, or junior yr)
• NS 3410 (S only); NS 3420 (required for dietetics & exercise science minor).
• Advanced nutrition electives
• BIOM 2900 (F/S), if will take BIOBM 3310; may be junior yr)
• NS 1200 (S only) if desired
• Other requirements and electives (see previous suggestions)
• Food Service Management (HADM 1360, F/S)- required for dietetics
• Physics, 1102/2208 (if have 1101/2207 and need second term)

FALL -- JUNIOR
• NS 3200 (F only), BIOMG 3310 (F only) or BIOMG 3300 (F/S)
• NS 3450 if not taken (has schedule conflict with BIOMI 2900)
• BIOAP 3110 (F only, if not NS 3410)
• BIOMI 2900 (F/S, required for dietetics, or senior)
• Food Service Management (HADM 1360, if dietetics transfer)
• Advanced nutrition electives (e.g., NS 3060, 4450)
• Agriculture and life sciences electives (see above)
• Other requirements and electives (see above)

SPRING -- JUNIOR
• NS 3310 (S only, or S senior, biochem is a pre-req)
• NS 4250 and 4500 required for dietetics (all S only)
• BIOMG 3320 or BIOMI 2900, if took BIOBM 3310, or BIOMG 3350
• Advanced nutrition electives (e.g., NS 3150 [alt yrs], 4250, 4315, 4444, 4500, 4570)
• Agriculture and life sciences electives
• Food Service Management (HADM 1360, if dietetics transfer)

FALL -- SENIOR
• NS 3320 (F only, prefer NS 3310 prior)
• NS 4410(F only, need biochem or instructor’s permission; required for dietetics)
• NS 4420 (F only) (required for dietetics, concurrent with 4410)
• Remaining requirements (see above)
• Electives to meet personal or career interests (graduate courses with permission)

SPRING -- SENIOR
• NS 4880 (S only, required for dietetics)
• NS 4250 and 4500 if not taken (required for dietetics)
• Remaining requirements (see above)
• Electives to meet personal or career interests (graduate courses with permission)