NUTRITIONAL SCIENCES (BS)

College of Agriculture and Life Sciences, College of Human Ecology

Program Website (https://www.human.cornell.edu/dns/academics/undergraduate/majors/ns/)

CIP: 19.0501 | **HEGIS:** 0424.00 | **NYSED:** 13584

Program Description

A major in Nutritional Sciences focuses on the complex interrelationships of food patterns, nutritional status, and health. This field draws upon chemistry, biology, and the social sciences to understand questions such as: How are nutrients used by the body? What factors influence human food choice? What nutrients and dietary patterns are recommended to promote growth, maintain health, or reduce the risk of chronic disease? Students in this program may also fulfill the courses required for didactic training in dietetics toward becoming a Registered Dietitian, which will enable them to be employed as nutrition counselors, clinical nutritionists, sports nutritionists, or administrators of food and nutrition services. Students also may prepare for medical school and other types of advanced degree programs through this major. This major is offered by the Division of Nutritional Sciences. More information about this major can be found on the Division's webpage, which includes descriptions of all of the majors that are offered.

Academic Standards

- DNS students may not use courses to fulfill more than one requirement.
- All major requirements must be taken for a letter grade.
- A passing grade must be earned to meet major requirements within a course.

Program Information

- Instruction Mode: In Person
- Location: Ithaca, NY
- Minimum Credits for Degree: 120

Program Requirements

The requirements listed below pertain to all students matriculating in August 2025 and January 2026. In addition to the major requirements outlined below, all students must meet their college graduation requirements:

- Nutritional Sciences majors in the College of Agriculture and Life Sciences (CALS) must complete the Agriculture and Life Sciences (CALS) Graduation requirements. This includes minimum total credits to graduate, CALS credit and distribution requirements, and University requirements.
- Nutritional Sciences majors in Cornell Human Ecology must complete Human Ecology Graduation requirements. This includes minimum total credits to graduate, CHE credit and distribution requirements, and University requirements.

Nutritional Sciences Core Courses (16 credits)

Code	Title	Hours
NS 1150	Nutrition, Health, and Society	3
NS 2450	Social Science Perspectives on Food and Nutrition	3
NS 3450	Introduction to Physiochemical and Biological Aspects of Foods	3
NS 3310	Human Nutrition and Nutrient Metabolism	4
NS 3320	Methods in Nutritional Sciences	3

Advanced Electives in Nutrition (9 Credits)

At least 9 credits of NS courses at the 3000 level or above[1]. *(see below for NS courses at the 3000/4000 level organized by area of interest).*

Economic Influences on Human Nutrition

Code	Title	Hours
NS 3060	Nutrition and Global Health	3
NS/AEM 4450	Toward a Sustainable Global Food System: Food Policy for Developing Countries	3
NS 4480	Economics of Food and Malnutrition	3
NS 4570	Health, Poverty, and Inequality: A Global Perspective	3

Nutrition and Public Health

Code	Title	Hours
NS 3600	Epidemiology	3
NS 4300	Proteins, Transcripts, and Metabolism: Big Data in Molecular Nutrition	3
NS 4500	Public Health Nutrition	3
NS 4510	Nutrition and Health Equity	3
NS 4600	Explorations in Global and Public Health	3

Food Quality and Food Service Management

Code	Title	Hours
NS 4880	Applied Dietetics in Food Service Systems	4

Human Health and Nutrition

Code	Title	Hours
NS/PSYCH 3150	Obesity and the Regulation of Body Weight	3
NS 3420	Human Anatomy and Physiology Laboratory	2
NS 4140	Maternal and Child Nutrition and Health	3
NS 4200	Diet and the Microbiome	3
NS 4210	Precision Nutrition and Health	3
NS 4410	Nutrition and Disease	4
NS 4420	Implementation of Nutrition Care (enrollment restricted – priority to Dietetics students)	3
NS 4430	Applied Anatomy and Physiology	2
NS 5510	Nutrition Assessment	3

Nutritional Biochemistry

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

Psychological and Social Influences on Human Nutrition

Code	Title	Hours
NS 4250	Nutrition Communications and Counseling	3

[1]
- 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, NS 4020 Supervised Fieldwork, and NS 4990 Honors Problem. These credits must be taken for a letter grade. However, if a NS 4020 Supervised Fieldwork experience or section is offered solely on an S/U basis, up to three credits may be applied toward the major requirement by exception.
- May not include NS 3200 Introduction to Human Biochemistry, NS 3980 Research in Human Nutrition and Health, or NS 4030 Teaching Apprenticeship.

Introductory Chemistry (8 credits)

Code	Title	Hours
Select one of the following options:		
OPTION A: [1]		
CHEM 2070	General Chemistry I	
& CHEM 2071	and General Chemistry I Laboratory	
& CHEM 2080	and General Chemistry II	
& CHEM 2081	and General Chemistry II Laboratory	
OPTION B: [2]		
AP Chemistry score of 5 or IB Chemistry score of 6 or 7 (AND)		
CHEM 2080	General Chemistry II	
& CHEM 2081	and General Chemistry II Laboratory	
OPTION C: [3]		
AP Chemistry score of 5 or IB Chemistry score of 6 or 7 (AND)		
CHEM 2150	Honors General and Inorganic Chemistry	

[1] Recommended for most all students, especially those on or considering a pre-health (e.g. pre-med) track.

[2] Students may use an AP Chemistry score of 5 or an IB Chemistry score of 6 or 7 to place out of CHEM 2070 + CHEM 2071. Pre-health (e.g. pre-med) students are not recommended to use AP scores to fulfill chemistry requirements. Students who take CHEM 2070 + CHEM 2071 forfeit AP or IB credit.

[3] 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.

Introductory Biology (8 Credits)

Code	Title	Hours
Select one of the following labs:		
BIOSM 1500	Investigative Marine Biology Laboratory	
or BIOSM 15	Investigative Marine Biology Laboratory	
Select two out of the three lecture options [1]		
BIOMG 1350	Introductory Biology: Cell and Developmental Biology	
BIOG 1440	Introductory Biology: Comparative Physiology [2]	
or BIOG 1445	Introduction to Comparative Anatomy and Physiology, Individualized Instruction	
BIOEE 1610	Introductory Biology: Ecology and the Environment [2]	
or BIOEE 178	An Introduction to Evolutionary Biology and Diversity	

[1] Students may use use 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.

[2] Cannot take both courses within one category to fulfill this requirement.

Organic Chemistry Lecture (3+ Credits)[1]

Code	Title	Hours
Select one of the following options:		
Option A:		
CHEM 1570	Introduction to Organic and Biological Chemistry (not for pre-health)	
Option B:		
CHEM 3570	Organic Chemistry for the Life Sciences	
& CHEM 3580	and Organic Chemistry for the Life Sciences	
Option C:		
CHEM 3590	Honors Organic Chemistry I	
& CHEM 3600	and Honors Organic Chemistry II [2]	

[1] Students interested in pre-health tracks should take a two-course sequence of organic chemistry lectures (option c or d above).

[2] Students who select options c or d above must take both courses in sequence; one course alone will not fulfill the requirement.

Organic Chemistry Lab (2-4 Credits)

Code	Title	Hours
CHEM 2510	Introduction to Experimental Organic Chemistry	2
or CHEM 3010	Honors Experimental Chemistry I	

Physiology (3-4 Credits) [1]

Code	Title	Hours
NS 3410	Human Anatomy and Physiology	4
or BIOAP 3110	Principles of Animal Physiology	

[1] Pre-health students should also consider taking NS 3420 Human Anatomy and Physiology Laboratory (2 cr), as a corequisite with NS 3410. Students may also take NS 4430 Applied Anatomy and Physiology Applied Anatomy and Physiology (2 cr) after completing NS 3410 Human Anatomy and Physiology

Biochemistry (4-6 Credits)

Code	Title	Hours
Select one of the following:		
NS 3200	Introduction to Human Biochemistry	
BIOMG 3300	Principles of Biochemistry, Individualized Instruction	
BIOMG 3310 & BIOMG 3320	Principles of Biochemistry: Proteins and Metabolism and Principles of Biochemistry: Molecular Biology	
BIOMG 3310 & BIOMI 2900	Principles of Biochemistry: Proteins and Metabolism and General Microbiology Lectures	
BIOMG 3350	Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology	

First Year Writing Seminars (6 Credits)

Nutritional Sciences majors must take two first year writing seminar courses during their first two semesters at Cornell.[1]

[1] Also fulfills the Human Ecology First Year Writing Seminar Requirement. For CALS students, these courses may count towards the CALS Oral and Written Expression distribution requirement.

Social Sciences

Students in the College of Agriculture and Life Sciences (CALS):

Students in CALS fulfill this requirement with Human Diversity (D-AG) and CALS Cultural, Social & Historical Understanding. Students must take one (1) course with attribute Human Diversity (D-AG) and must complete two (2) courses of the below distributions, with a maximum of one (1) course in each category. Cultural Analysis (CA-AG), Foreign Language (FL-AG), Historical Analysis (HA-AG), Literature and the Arts (LA-AG), and Social and Behavioral Analysis (SBA-AG). See the CALS Graduation Requirements for more information.

Students in Cornell Human Ecology (CHE):

Students in CHE fulfill this requirement with the CHE Social Sciences Distribution Requirement by completing one course in any two of the following four areas:

Code	Title	Hours
Anthropology		
ANTHR 1400	Introduction to Sociocultural Anthropology	
Economics		
ECON 1110	Introductory Microeconomics	
ECON 1120	Introductory Macroeconomics	
Psychology		
PSYCH 1101	Introduction to Psychology	
Sociology		
HD 1130	Introduction to Human Development	
SOC 1101	Introduction to Sociology	

Calculus/Advanced Math (3-4 Credits)

Code	Title	Hours
Select one of the following:		
MATH 1105	Finite Mathematics for the Life and Social Sciences	
MATH 1106	Modeling with Calculus for the Life Sciences	
MATH 1110	Calculus I	
MATH 1120	Calculus II	
A score of 4 or higher on the AB or BC Calculus AP Exam [1]		

Statistics (3-4 Credits)

Code	Title	Hours
Select one of the following:		
STSCI 2150	Introductory Statistics for Biology (recommended)	
PUBPOL 2100	Introduction to Statistics	
AEM 2100	Introductory Statistics	
BTRY 3010	Statistics I	
ILRST/STSCI 2100	Introductory Statistics and Data Science	
MATH 1710	Statistical Theory and Application in the Real World	
PSYCH 2500	Statistics and Research Design	
SOC 3010	Statistics for Sociological Research	
A score of 4 or 5 on the Statistics AP Exam [1]		

[1] Unless a student scored a [4 or 5] on both the Statistics and BC Calculus AP Examinations, they must take either Statistics or Calculus at Cornell.

Usage of Calculus and Statistics AP Scores:

- Students with AP Statistics [Score of 4 or 5] Only: May use AP credit to fulfill the Statistics requirement
- Students with AP Calculus AB [Score of 4 or 5] Only: May use AP credit to fulfill the Calculus requirement
- Students with AP Calculus BC [Score of 4 or 5] Only: May use AP credit to fulfill the Calculus requirement
- Students with AP Calculus AB [Score of 4 or 5] and AP Statistics [Score of 4 or 5]: May use AP credit to fulfill either the Calculus or Statistics requirement
- Students with AP Calculus BC [Score of 4 or 5] and AP Statistics [Score of 4 or 5]: May use AP credit to fulfill both the Calculus and Statistics requirement

University Graduation Requirements Requirements for All Students

In order to receive a Cornell degree, a student must satisfy academic and non-academic requirements.

Academic Requirements

A student's college determines degree requirements such as residency, number of credits, distribution of credits, and grade averages. It is the student's responsibility to be aware of the specific major, degree, distribution, college, and graduation requirements for completing their chosen program of study. See the individual requirements listed by each college or school or contact the college registrar's office (https://registrar.cornell.edu/service-resources/college-registrar-directory/) for more information.

Non-academic Requirements

Conduct Matters. Students must satisfy any outstanding sanctions, penalties or remedies imposed or agreed to under the Student Code of Conduct (Code) or Policy 6.4. Where a formal complaint under the Code or Policy 6.4 is pending, the University will withhold awarding a degree otherwise earned until the adjudication process set forth in those procedures is complete, including the satisfaction of any sanctions, penalties or remedies imposed.

Financial Obligations. Outstanding financial obligations will not impact the awarding of a degree otherwise earned or a student's ability to access their official transcript. However, the University may withhold issuing a diploma until any outstanding financial obligations owing to the University are satisfied.

Additional Requirements for Undergraduate Students

The University has two requirements for graduation that must be fulfilled by all undergraduate students: the swim requirement, and completion

of two physical education courses. For additional information about fulfilling University Graduation Requirements, see the Physical Education website (https://scl.cornell.edu/pe/).

Physical Education

All incoming undergraduate students are required to take two credits (two courses) of Physical Education prior to graduation. It is recommended they complete the two courses during their first year at Cornell. Credit in Physical Education may be earned by participating in courses offered by the Department of Athletics and Physical Education (https://courses.cornell.edu/preview_program.php?catoid=60&poid=30232) and Cornell Outdoor Education, by being a registered participant on a varsity athletic team, or performing in the marching band.

Students with medical concerns should contact the Office of Student Disability Services (http://sds.cornell.edu/).

Swim Requirement

The Faculty Advisory Committee on Athletics and Physical Education has established a basic swimming and water safety competency requirement for all undergraduate students. Normally, the requirement is taken during the Fall Orientation process at Helen Newman Hall or Teagle Hall pools. The requirement consists of the following: jump or step feet-first into the deep end of the pool, float or tread for one minute, turn around in a full circle, swim 25 yards using any stroke(s) of choice without touching the bottom or holding on to the sides (there is no time limit) and exit from the water. Students who do not complete the swim requirement during their first year, during a PE swim class or during orientation subsequent years, will have to pay a $100 fee. Any student who cannot meet this requirement must register for PE 1100 Beginning Swimming as their physical education course before electives can be chosen.

If a student does not pass the swim requirement in their first Beginning Swimming PE class, then the student must take a second Beginning Swimming PE class (PE 1100 or PE 1101). Successful completion of two Beginning Swimming classes (based on attendance requirements) with the instructor's recommendation will fulfill the University's swim requirement.

Students unable to meet the swim requirement because of medical reasons should contact the Office of Student Disability Services (http://sds.cornell.edu/). When a waiver is granted by the Faculty Committee on Physical Education, an alternate requirement is imposed. The alternate requirement substitute is set by the Director of Physical Education.

CALS Graduation Requirements for the Bachelor of Science

Students are responsible for understanding and fulfilling all the requirements necessary for graduation. Additionally, students must promptly notify the college of any discrepancies or issues with their academic records.

CALS undergraduate students follow college distribution requirements corresponding to their matriculation/entry term and class standing. Students matriculating/entering before Fall 2025 will complete the existing CALS distribution requirements. First-year students matriculating/entering Fall 2025 or later will be subject to the new CALS 2025+ distribution requirements. However, sophomore and junior transfer students matriculating/entering in Fall 2025 will follow the existing CALS distribution requirement to align with students in their corresponding cohort year. All students must adhere to the requirements designated for their matriculation/entry term and class standing. *There are no exceptions to this policy.*

Although specific requirements vary between the curriculums, all students must complete the following Graduation Requirements to earn the Bachelor of Science degree:

1. University Graduation Requirements
2. Credit Requirements
3. Distribution Requirements
4. Residency Requirement
5. GPA Requirement
6. Major Requirements
7. Application to Graduate

Credit Requirement Policies

1. Minimum total credits: 120 academic credits are required for graduation.
   - Important Exceptions:
     - Repeated Cornell courses that do not allow repeat for credit will not count towards the number of credits required for graduation. These credits do count toward the minimum twelve (12) credits required for full-time status and good academic standing.
     - Forbidden Overlaps will not count towards credits required for graduation. These credits do count toward the minimum twelve (12) credits required for full-time status and good academic standing. More information can be found under the Course Enrollment and Credits page.
     - Review or supplemental courses (e.g., 1000- to 1099-level) do not count towards the number of credits required for graduation. These credits do not count toward the minimum twelve (12) credits required for full-time status or good academic standing.
     - Physical Education courses do not count toward the required 120 credits for graduation. They also do not count toward the minimum twelve (12) credits required for full-time status or good academic standing.
2. Minimum Credits at Cornell: Sixty (60) academic credits must be completed at Cornell (includes Cornell in Rome, Capital Semester, and Brooks School Cornell in Washington DC Connect Program, and Shoals Marine Laboratory).
3. Maximum Non-Cornell Credits: Sixty (60) non-Cornell credits (AP, CASE, IB, GCE, French Baccalauréat, Cambridge Pre-University, and external transfer coursework) can be applied toward degree requirements. A student can transfer in a maximum of fifteen (15) academic credits earned before matriculation as a first-year student at any accredited college/university (AP, CASE, IB, GCE, French Baccalauréat, and external transfer credits). Refer to Non-Cornell (Transfer) Credit under Policies and Procedures for additional information.
4. All CALS students are required to fulfill a minimum number of CALS Credits, structured credits, and letter-graded credits. Specific policies are in the curriculum sections below.

Residency Requirements

- Eight (8) semesters of full-time study are expected. External transfer students are credited with one (1) semester in residence for each full-time semester (or equivalent) completed at another accredited institution prior to matriculation at Cornell.

- Internal transfer students must complete two (2) semesters in residence in CALS.
- The final semester before graduation must be completed in a Cornell program as a full-time student. Summer or winter semesters cannot be counted as a final semester. (The School of Continuing Education does not count towards a final semester in residency.)
- Students in the ninth (9^{th}) (or equivalent) and final semester may be eligible to apply for prorated tuition. The eligibility criteria are listed online (https://cals.cornell.edu/undergraduate-students/cals-student-services/degree-advising/cals-graduation-requirements-for-bachelor-of-science/).
- The following programs are in residency: Cornell in Washington DC Connect Program (Fall or Spring only), Capital Semester, Shoals Summer Semester.

Grade Point Average (GPA) Requirements

Minimum cumulative GPA: 2.00 or above must be maintained. Students must earn a minimum cumulative GPA of 2.00 or better to graduate. The cumulative GPA includes all letter grades earned at Cornell.

CALS Degree Requirements Prior to 2025 (applies to Transfers entering Fall 2025)

These requirements apply to: First-year students who matriculated before Fall 2025, sophomore transfers who matriculate prior to Fall 2026, and junior transfers who matriculate before Fall 2027. All students must follow the requirements based on their matriculation and expected graduation dates. *There are no exceptions to this policy.*

Students are required to fulfill:

1. University Graduation Requirements:
   a. Physical Education.
   b. Swim Requirement.
2. Credit Requirements: 120 academic credits, of which a minimum of fifty-five (55) must be taken from the College of Agriculture and Life Sciences at Cornell. A minimum of one hundred (100) credits must be in courses for which a letter grade was received. PE and supplemental courses do not count as academic credit.
   a. Fifty-five (55) CALS Credits are required for graduation. CALS Credits consist of courses offered within CALS and in Applied Economics and Management, Biological Sciences, Biology & Society, Earth and Atmospheric Sciences, Environment and Sustainability, Information Science, Nutritional Science, and the Department of Statistics and Data Science. CALS Credits include all courses with the following subjects: AGSCI, AIISP, ALS, AEM, ANSC, BEE, BIOG, BIOAP, BIOCB, BIOEE, BIOMG, BIOMI, BIOMS, BIONB, BIOSM, BSOC, BTRY, COMM, DSOC, EAS, EDUC, ENTOM, ENVS, FDSC, GDEV, IARD, INFO, LA, LEAD, NS, NTRES, PLBIO, PLBRG, PLHRT, PLPPM, PLSCI, PLSCS , STSCI, VIEN.
   b. Minimum Letter-Graded Credits: One hundred (100) credits. Proration of letter-graded credits may be applicable to students that transfer non-Cornell credits (see Proration Chart for non-Cornell credit (https://experience.cornell.edu/sites/default/files/resource-files/Proration%20Chart%20for%20Students%20with%20Non%20Cornell%20Credit.pdf)).
   c. Maximum Credits earned through Special Studies (Independent Study, Research, Teaching Assistantships, and/or Internships): Fifteen (15) credits of "unstructured" coursework can be applied towards graduation requirements. Proration of structured credits may be applicable to students that transfer non-Cornell credits (see Proration Chart for non-Cornell credit (https://experience.cornell.edu/sites/default/files/resource-files/Proration%20Chart%20for%20Students%20with%20Non%20Cornell%20Credit.pdf)).
3. Residency: Eight (8) semesters of full-time study are expected. External transfer students are credited with one (1) semester of residence for each full-time semester (or equivalent) completed at another accredited institution prior to matriculating at Cornell.
4. GPA: Students must earn a minimum cumulative GPA of 2.00 or better to graduate. The cumulative GPA includes all letter grades earned at Cornell.
5. Physical and Life Sciences: Eighteen (18) credits, of which six (6) credits must be Introductory Life Sciences/Biology and three (3) credits must be Chemistry or Physics.
6. Quantitative Literacy: Faculty legislation requires minimum competency in quantitative literacy. This requirement can be satisfied by taking an approved calculus or statistics class.
7. Social Science and Humanities: Students must complete four (4) courses within the seven (7) categories of Humanities and Social Sciences. The courses MUST span at least three (3) different categories. Human Diversity (D) is a required category. Humanities courses must be a minimum of three (3) credits.
8. Written and Oral Expression: Nine (9) credits total, of which at least six (6) must be in Written Expression. Oral Expression is not required by the college but may be required for some majors. If Oral Expression is not required by the major, all nine credits may be in Written Expression.
9. Major: See individual department listings for major requirements.
10. Application to Graduate: See Graduation Resources (https://cals.cornell.edu/undergraduate-students/cals-student-services/graduation-resources/).

Distribution Requirements

The purpose of the distribution requirement is to have all students achieve common learning outcomes. It is expected that through college and major course requirements graduates will be able to:

- Explain, evaluate, and effectively interpret factual claims, theories, and assumptions in the student's discipline(s) (especially in one or more of the college's priority areas of Food & Energy Systems, Social Sciences, Life Sciences, and Environmental Sciences) and more broadly in the sciences and humanities.
- Find, access, critically evaluate, and ethically use information.
- Integrate quantitative and qualitative information to reach defensible and creative conclusions.
- Communicate effectively through writing, speech, and visual information.
- Articulate the views of people with diverse perspectives.
- Demonstrate the capability to work both independently and in cooperation with others.

Through the study of Physical and Life Sciences, students develop their understanding and appreciation of the physical sciences, enhance their quantitative reasoning skills, and gain an appreciation of the variability of living organisms. Social Sciences and Humanities gives students perspective on the structure and values of the society in which we live and prepares them to make decisions on ethical issues that will affect their work and role in society. Written and Oral Expression is designed to help students become competent and confident in the use of oral and written communication to express themselves and their ideas.

Important Notes:

- Credits received for independent study, fieldwork, teaching, research, work experience, and internships cannot be used to fulfill the distribution requirements
- Review or supplemental courses, such as 1000- to 1099-level courses, will not be counted in the distribution areas.
- First-Year Writing Seminars (FWS) cannot be used to satisfy the Physical and Life Sciences distribution area.
- Courses that fulfill distributions are approved by the CALS Curriculum Committee. Distributions cannot be applied to a course retroactively, and individual student petitions for Cornell courses to fulfill distributions will not be accepted. Students may request a review of external transfer courses for fulfilling distribution requirements.

Physical and Life Sciences:

Eighteen (18) credits, of which six (6) credits must be Introductory Life Sciences/Biology and three (3) credits in Chemistry or Physics. Courses that count for Introductory Life Sciences/ Biology, Chemistry/Physics, Quantitative Literacy, and Other Physical and Life Sciences count towards the eighteen (18) credits for this requirement

Introductory Life Sciences/Biology Requirement (BIO-AG):
Students must complete at least six (6) academic credits of Introductory Life Sciences/Biology. Courses that count towards this requirement have the BIO-AG distribution attribute. Note: CALS does NOT accept BIO-AS for BIO-AG.

Offerings in the area provide a foundation in the field of biology. Courses must include: an evolutionary component, instruction on applying the process of science and a significant student-centered teaching component.

Chemistry/Physics (CHPH-AG):
Students must complete a minimum of three (3) credits of Chemistry or Physics. Includes all Cornell courses with the CHEM or PHYS prefix (excluding courses that are supplemental, independent study, research, TA, internship, and First-Year Writing Seminar). Courses that count towards this requirement have a CHPH-AG distribution attribute. Additionally, courses with the prefix CHEM or PHYS of at least 11xx numbering and a minimum of three (3) credits are accepted as fulfilling CHPH-AG.

Courses that meet the CALS Chemistry or Physics (CHPH) requirement provide students with a foundational understanding of key scientific principles. These courses delve into the study of chemistry (focusing on the composition, properties, and transformations of substances) or physics (exploring the principles of matter, energy, and their interactions). Fulfilling this requirement equips students with essential scientific knowledge that supports practical and innovative applications in fields like agriculture, environmental science, and food science, thereby fostering their ability to address and solve critical challenges within these domains.

Quantitative Literacy (MQL-AG):
Students must complete one (1) Quantitative Literacy course. Courses that count towards these requirements have an MQL-AG distribution attribute. Additionally, courses of at least 11xx numbering with the MATH prefix may fulfill this category. Calculus courses and Introductory Statistics courses may also fulfill MQL-AG.

Faculty legislation requires minimum competency in quantitative literacy. Courses that fulfill the Mathematics and Quantitative Literacy distribution in CALS enhance students' problem-solving skills by teaching them to understand abstract, logical relationships. These classes focus on the mathematical analysis of data, modeling natural and man-made systems, and developing algorithms critical for computation. Students will learn various quantitative methods and how to apply quantitative reasoning across different fields.

This requirement can also be satisfied by earning a score of four (4) or five (5) on the AP Calculus exam or a score of five (5) on the AP Statistics exam, or transfer of an approved calculus or statistics course with a minimum letter grade of "C" or better.

Other Physical Life Sciences (OPHLS-AG):
Other Physical Life Sciences courses count towards the eighteen (18) credit total for the Physical and Life Sciences requirement. Courses that count towards this requirement have the OPHLS-AG distribution attribute. The number of OPHLS-AG courses taken will vary by student. Courses with the following distributions are also accepted for the CALS OPHLS-AG distribution: PBS-HE, BIO-AS, PHS,AS, SDS-AS. Additionally, any course with BIO-AG, CHPH-AG or MQL-AG may alternatively fulfill OPHLS-AG.

Offerings in this area explore additional physical and life science subjects as well as quantitative literacy (math) courses. Courses satisfying this requirement help students understand and appreciate the physical sciences, enhance quantitative reasoning skills, or explore the variability of living organisms.

Social Sciences and Humanities:

Students must complete four (4) courses within the seven (7) categories of Humanities and Social Sciences. The courses MUST span at least three (3) different categories. Human Diversity (D) is a required category. Humanities courses must be a minimum of three (3) credits.

No more than two (2) courses in the same department will be counted toward the distribution requirement. Social Sciences & Humanities Categories:

(Also refer to Distribution Requirement Codes (https://catalog.cornell.edu/general-information/distribution-codes/))

Cultural Analysis (CA-AG)
These courses study human life in particular cultural contexts through interpretive analysis of individual behavior, discourse, and social practice. Topics include belief systems (science, medicine, religion), expressive arts and symbolic behavior (visual arts, performance, poetry, myth, narrative, ritual), identity (nationality, race, ethnicity, gender, sexuality), social groups and institutions (family, market, community), and power and politics (states, colonialism, inequality).

CALS also accepts courses of at least three (3) credits with the following distributions as fulfilling CA-AG: ALC-AS, ALC-HA, ALC-AAP, CA-HE, CA-AAP, GLC-AS

Foreign Language (FL-AG)
Foreign Language courses available for CALS students at Cornell are offered by several departments, including Africana Studies and Research Center (AS&RC – language courses only), Asian Studies with languages such as Bangla-Bengali, Burmese, Chinese, Hindi, Indonesian, Japanese, Khmer, Korean, Sanskrit, Tagalog, Thai, and Vietnamese, and Classics (CLASS – language courses only). Additional offerings are provided by German Studies, which includes German, Dutch, and Swedish (language courses only), Linguistics (LING – language courses only), Near Eastern Studies (NES - language courses only), Romance Studies with languages like Catalan, French, Italian, Portuguese, Quechua, and Spanish, and Russian Studies, covering Russian, Hungarian, Polish,

Serbian/Croatian, and Ukrainian. CALS will recognize these Foreign Language (FL) classifications by any college at Cornell, provided the class is taken for three (3) or more credits. Transfer students may have non-Cornell courses that meet SUNY World Languages requirements and are a minimum of three (3) credits reviewed as fulfilling FL-AG.

Human Diversity (D-AG)
These courses analyze historical or contemporary marginalized communities and the culturally specific contexts that produce unequal power relations in terms of race, nationality, ethnicity, indigeneity, sexuality, disability, religion, gender, or economic status.

Definition of "marginalize": Any groups with reduced access to social status, political influence, economic advancement, educational advancement, healthcare, information, or any of the goods, services, and powers of a society can be considered "marginalized." Causes of marginalization may be related to ethnic status, religion, country of origin, sexual orientation, geography, economics, and government policies. Those who exist on the furthest margins of a society are frequently subject to several of these forces.

CALS also accepts courses of at least three (3) credits with the following distributions as fulfilling D-AG: SCD-AS, SCD-HA, D-HE.

Non-equated external transfer courses will only be considered for junior transfer students who have taken an appropriate course at their prior institution and whose schedule does not allow space to take a Human Diversity (D-AG) course at Cornell. These situations will be reviewed individually after a required appointment with CALS Student Services.

Historical Analysis (HA-AG)
These courses interpret continuities and changes—political, social, economic, diplomatic, religious, intellectual, artistic, scientific—through time. The focus may be on groups of people, dominant or subordinate, a specific country or region, an event, a process, or a time period.

CALS also accepts courses of at least three (3) credits with the following distributions as fulfilling HA-AG: HA-AAP, HST-AAP, HST-AS, HST-HA, HA-HE

Knowledge, Cognition, and Moral Reasoning (KCM-AG)
These courses investigate the bases of human knowledge in its broadest sense, ranging from cognitive faculties shared by humans and animals such as perception, to abstract reasoning, to the ability to form and justify moral judgments. Courses investigating the sources, structure, and limits of cognition may use the methodologies of science, cognitive psychology, linguistics, or philosophy. Courses focusing on moral reasoning explore ways of reflecting on ethical questions that concern the nature of justice, the good life, or human values in general.

CALS also accepts courses of at least three (3) credits with the following distributions as fulfilling KCM-AG: ETM-AAP, ETM-AS, ETM-HA, KCM-AAP, KCM-HE

Literature and the Arts (LA-AG)
These courses explore literature and the arts in two different but related ways. Some courses focus on the critical study of artworks and on their history, aesthetics, and theory. These courses develop skills of reading, observing, and hearing and encourage reflection on such experiences; many investigate the interplay among individual achievement, artistic tradition, and historical context. Other courses are devoted to the production and performance of artworks (in creative writing, performing arts, and media such as film and video). These courses emphasize the interaction among technical mastery, cognitive knowledge, and creative imagination.

CALS also accepts courses of at least three (3) credits with the following distributions as fulfilling LA-AG, ALC-AS, ALC-HA, ALC-AAP, LA-AAP

Social and Behavioral Analysis (SBA-AG)
These courses examine human life in its social context through the use of social scientific methods, often including hypothesis testing, scientific sampling techniques, and statistical analysis. Topics studied range from the thoughts, feelings, beliefs, and attitudes of individuals to interpersonal relations between individuals (e.g., in friendship, love, conflict) to larger social organizations (e.g., the family, society, religious or educational or civic institutions, the economy, government) to the relationships and conflicts among groups or individuals (e.g., discrimination, inequality, prejudice, stigmas, conflict resolution).

CALS also accepts courses of at least three (3) credits with the following distributions as fulfilling SBA-AG: SSC-AS, SBA-HE, SBA-AAP, SSC-AAP

Written and Oral Expression:

Nine (9) credits total, of which at least six (6) must be in Written Expression. Oral Expression is not required by the college but may be required for some majors. If Oral Expression is not required by the major, all nine (9) credits may be in Written Expression. Writing in the Majors (WIM) courses do not count towards Written Expression.

Written Expression (WRT-AG)
All students are required to take at least six (6) credits of Written Expression and may take nine (9) credits to fulfill the Written and Oral Expression requirement. Courses that fulfill the Written Expression requirement in CALS focus on enhancing students' writing skills. Courses meeting this requirement devote at least 50% of class time to writing proficiency, involve at least five (5) writing assignments with detailed feedback, and emphasize revision and development. These courses ensure personalized attention and help students articulate ideas clearly, argue effectively, and engage with evidence critically. This structure supports students in improving both their writing mechanics and their ability to communicate persuasively across contexts.

CALS also accepts FWS courses as fulfilling WRT-AG. Transfer students may have courses that meet the SUNY Writing Requirement considered to fulfill this requirement.

Oral Expression (ORL-AG)
Students may take one (1) Oral Expression course towards the nine (9) required credits for Written and Oral Expression. Courses that fulfill the CALS Oral Expression requirement enhance students' public speaking and communication skills. Courses meeting this requirement center on improving oral proficiency, dedicating over 50% of class time to the principles of effective communication. Each course involves at least five (5) formal oral presentations, with four (4) undergoing detailed revisions based on structured feedback that focuses on speech organization, clarity, evidence use, and delivery. These courses offer personalized guidance and encourage students to apply feedback to subsequent presentations. The aim is to refine students' abilities to articulate ideas persuasively and adapt messages for different contexts, ensuring they can communicate effectively on any topic.

CALS 2025+ Degree Requirements (applies to first-year students who start Fall 2025 or after)

The 2025+ CALS Curriculum applies to first-year students who enter CALS starting Fall 2025 and all semesters after. Transfer students entering

Fall 2025 and all continuing students will follow the Prior to Fall 2025 Requirements. There are no exceptions to this policy.

All students are required to complete:

1. University Graduation Requirements
2. Credit Requirements
3. 120 Credits are required to graduate, of the 120:
    - A minimum seventy-five (75) must be CALS Credits (fifty-five (55) for transfer students).
    - A minimum of 105 must be structured academic credits (transfer courses can count towards this requirement).
    - A minimum of one hundred (100) letter-graded academic credits (transfer courses can count towards this requirement).
    - The following courses do not count towards the 120: PE course, courses numbered 1000-1099, forbidden overlap courses, and repeated courses (that do not allow repeats).
4. Residency Requirement
5. GPA Requirement
6. Distribution Requirements
7. E3 Learning Milestone
8. Major Requirements: See individual department listings for major requirements.
9. Application to Graduate: Information can be found on graduation webpage.

75 CALS Credits

Students are required to take seventy-five (75) CALS Credits. The following counts as CALS Credit:

- Any course with the following prefixes: AGSCI, AIIS, ALS, ANSC, BEE, BIOG, BIOAP, BIOCB, BIOEE, BIOMG, BIOMI, BIOMS, BIONB, BIOSM, BSOC, BTRY, COMM, EAS, EDUC, ENTOM, ENVS, FDSC, GDEV, INFO, LA, LEAD, NS, NTRES, PLSCI, STSCI, VIEN
- Courses with the FWS attribute (two (2) courses maximum)
- For BSBU students only: prefix AEM
    - AEM courses will not count towards the required seventy-five (75) CALS Credits, except for students who have officially been accepted to the AEM major. CALS students who choose to complete an AEM minor cannot count AEM courses towards their seventy-five (75) required CALS courses.

Students with matriculation status of Transfer will have a requirement of fifty-five (55) CALS Credits.

Distribution Requirements

The College of Agriculture and Life Sciences (CALS) college distribution requirements are the cornerstone of a diverse and comprehensive education.

These requirements encourage our students to venture beyond familiar subjects, develop a deeper understanding of others, uncover insights that can spark new interests, and pave the way toward meaningful careers that can shape a just and sustainable future.

The CALS distribution requirements consist of:

- A minimum of thirty-nine (39) credit hours of coursework.
- A single course may not fulfill more than one college distribution requirement. However, a single course can simultaneously fulfill college and major requirements.
- Students in CALS have the option to take some of these courses either for a grade or using S/U grading. However, letter grades may be required for some majors.
- Non-academic credit courses (numbered 1000-1099 and PE) do not fulfill distribution requirements. Special Topics Courses (numbered 4940) do not fulfill distribution requirements.
- Courses that fulfill distributions are approved by the CALS Curriculum Committee. Distributions cannot be applied to a course retroactively, and individual student petitions for Cornell courses to fulfill distributions will not be accepted. Students may request a review of external transfer courses for fulfilling distribution requirements.

Students must complete all of the following:

Agriculture, Food Systems & Human Nutrition (AFS-AG)

- Take one (1) Agriculture, Food Systems & Human Nutrition (AFS-AG) course.

The Agriculture, Food Systems & Human Nutrition distribution requirement at CALS emphasizes a comprehensive understanding of the food system, including production, processing, distribution, consumption, and waste, with a focus on the integration of these multiple components. Students must learn to describe, analyze, and understand the interdependent nature and the environmental and nutritional impacts of the food system. To fulfill the requirement, a course must cover at least two components of the food system, analyze their interactions, and dedicate at least half of its content to this holistic view, potentially including topics like agricultural history, food sustainability, and nutrition access.

Biological Sciences (BSC-AG)

- Take one (1) Biological Sciences (BSC-AG) course. Note: the following are NOT accepted as fulfilling BSC-AG: BIO-AG, BIO-AS.

Courses that meet the Biological Sciences requirement for CALS dedicate most of their content (at least 75%) to exploring one or more of the following biological concepts: evolution, structure and function, the flow, exchange and storage of information, pathways and transformations of energy and matter, or living systems. These courses include an evolutionary component, teach students how to apply scientific methods, and include at least one of the following competencies: quantitative reasoning, modeling and simulation, interdisciplinary thinking, interdisciplinary collaboration and communication, or science and society relational understanding. Courses also emphasize student-centered learning activities such as labs, problem solving, case studies, research projects, or collaborative projects. Some courses within this distribution are identified as suitable for non-life sciences majors— these courses have no prerequisites and require only high school-level science knowledge.

Physical Sciences (PSC-AG)

- Take one (1) Physical Sciences (PSC-AG) course.

CALS Physical Sciences courses cover at least 75% of their content in fields such as chemistry, physics, earth science, atmospheric science, or astronomy, connecting theoretical knowledge to practical applications. Courses also emphasize student-centered learning activities such as labs, problem solving, case studies, research projects, or collaborative projects. Some courses within this distribution are identified as suitable for non-sciences majors - these courses have no prerequisites and require only high school-level science knowledge.

Sustainability Challenges (SCH-AG)

- Take one (1) Sustainability Challenges (SCH-AG) course.

Courses that satisfy the sustainability distribution requirement in CALS must allocate at least 30% of content or learning outcomes to examining the intricate interplay between economic, socio-political, and environmental aspects of sustainability issues or their solutions or to exploring the connections among three or more UN Sustainable Development Goals in relation to the main class topic. Additionally, the course must incorporate a learning outcome focused on one of three key proficiencies: systems thinking, decision-making amidst uncertainty, or understanding the factors that constrain sustainability, thereby ensuring students gain a comprehensive and interdisciplinary perspective on sustainability challenges.

Data Literacy (DLG-AG and DLS-AG)

Two required courses:

- Take one (1) course with attribute Data Literacy Statistics (DLS-AG).
- Take one (1) course with attribute Data Literacy General (DLG-AG) OR one (1) course with attribute Data Literacy Statistics (DLS-AG).

CALS courses fulfilling the Data Literacy General (DLG-AG) requirement are designed to teach students how to interpret and articulate insights from both quantitative and qualitative data, with an emphasis on various competencies such as data analysis, acquisition methods, curation, and security. Students will be expected to understand the types of data, their applications, and the ethical implications of data misuse upon completion of these courses. The courses must dedicate a significant portion of content to at least three (3) specific data literacy competencies and include at least one of these competencies as a main learning outcome.

Courses that fulfill Data Literacy Statistics (DLS-AG) additionally provide explicit instruction on mathematical approaches to collection, description, analysis, and inference of conclusions from quantitative data. Course content focuses on the Data Manipulating & Analysis competency: Ability to draw conclusions from data with quantitative and/or qualitative methods, which may include statistical or computational methods and may include tools like R, Python, Stata, Tableau, Unix, NVivo, QGIS, Excel, SPSS, etc.

Ethics (ETH-AG)

- Take one (1) course with attribute Ethics (ETH-AG). Note the following are NOT accepted as fulfilling ETH-AG: KCM-AG, ETM-AAP, ETM-AS, ETM-HA, KCM-AAP, KCM-HE.

Courses that fulfill the CALS Ethics requirement are designed to immerse students in the study of ethical principles impacting various facets of life, including personal, social, and global spheres, as well as in research and professional practices. These courses aim for students to critically engage with their values, understand diverse ethical perspectives, and articulate reasoned ethical positions. To satisfy the Ethics requirement, a course must devote over half of its content to ethical issues relevant to its main topic, incorporate historical or modern ethical debates, foster personal ethical reflection, and include specific learning outcomes focused on ethics.

Human Diversity (D-AG)

- Take one (1) course with attribute Human Diversity (D-AG).

CALS Human Diversity courses foster a comprehensive understanding of the complexities surrounding historically or contemporarily marginalized communities, emphasizing the critical analysis of unequal power dynamics shaped by factors such as race, nationality, ethnicity, indigeneity, sexuality, disability, religion, gender, or economic status. To meet this requirement, a course must allocate at least 50% of its content to examining these issues, be a minimum of three (3) credits, and achieve specific learning outcomes. These outcomes include demonstrating knowledge of diverse cultural practices, understanding systemic oppression, and assessing personal cultural perspectives to identify potential biases.

CALS also accepts courses of at least three (3) credits with the following distributions as fulfilling D-AG: SCD-AS, SCD-HA, D-HE.

Non-equated external transfer courses will only be considered for junior transfer students who have taken an appropriate course at their prior institution and whose schedule does not allow space to take a Human Diversity (D-AG) course at Cornell. These situations will be reviewed individually after a required appointment with CALS Student Services.

Cultural, Social & Historical Understanding

Take two (2) courses of the below distributions, with a maximum of one (1) course in each category: CA-AG, FL-AG, HA-AG, LA-AG, SBA-AG.

Cultural Analysis (CA-AG)

These courses study human life in particular cultural contexts through interpretive analysis of individual behavior, discourse, and social practice. Topics include belief systems (science, medicine, religion), expressive arts and symbolic behavior (visual arts, performance, poetry, myth, narrative, ritual), identity (nationality, race, ethnicity, gender, sexuality), social groups and institutions (family, market, community), and power and politics (states, colonialism, inequality).

CALS also accepts courses of at least three (3) credits with the following distributions as fulfilling CA-AG: ALC-AS, ALC-HA, ALC-AAP, CA-HE, CA-AAP, GLC-AS.

Foreign Language (FL-AG)

Foreign Language - Foreign Language courses available for CALS students at Cornell are offered by several departments, including Africana Studies and Research Center (AS&RC – language courses only), Asian Studies with languages such as Bangla-Bengali, Burmese, Chinese, Hindi, Indonesian, Japanese, Khmer, Korean, Sanskrit, Tagalog, Thai, and Vietnamese, and Classics (CLASS – language courses only). Additional offerings are provided by German Studies, which includes German, Dutch, and Swedish (language courses only), Linguistics (LING – language courses only), Near Eastern Studies (NES - language courses only), Romance Studies with languages like Catalan, French, Italian, Portuguese, Quechua, and Spanish, and Russian Studies, covering Russian, Hungarian, Polish, Serbian/Croatian, and Ukrainian. CALS will recognize these Foreign Language (FL) classifications by any college at Cornell, provided the class is taken for three (3) or more credits. Transfer students may have non-Cornell courses that meet SUNY World Languages and are a minimum of three (3) credits reviewed as fulfilling FL-AG.

Historical Analysis (HA-AG)

These courses interpret continuities and changes - political, social, economic, diplomatic, religious, intellectual, artistic, scientific - through time. The focus may be on groups of people, dominant or subordinate, a specific country or region, an event, a process, or a time period.

CALS also accepts courses of at least three (3) credits with the following distributions as fulfilling HA-AG: HA-AAP, HST-AAP, HST-AS, HST-HA, HA-HE.

Literature and the Arts (LA-AG)
These courses explore literature and the arts in two different but related ways. Some courses focus on the critical study of artworks and on their history, aesthetics, and theory. These courses develop skills of reading, observing, and hearing and encourage reflection on such experiences; many investigate the interplay among individual achievement, artistic tradition, and historical context. Other courses are devoted to the production and performance of artworks (in creative writing, performing arts, and media such as film and video). These courses emphasize the interaction among technical mastery, cognitive knowledge, and creative imagination.

CALS also accepts courses of at least three (3) credits with the following distributions as fulfilling LA-AG: ALC-AS, ALC-HA, ALC-AAP, LA-AAP.

Social and Behavioral Analysis (SBA-AG)
These courses examine human life in its social context through the use of social scientific methods, often including hypothesis testing, scientific sampling techniques, and statistical analysis. Topics studied range from the thoughts, feelings, beliefs, and attitudes of individuals to interpersonal relations between individuals (e.g., in friendship, love, conflict) to larger social organizations (e.g., the family, society, religious or educational or civic institutions, the economy, government) to the relationships and conflicts among groups or individuals (e.g., discrimination, inequality, prejudice, stigmas, conflict resolution).

CALS also accepts courses of at least three (3) credits with the following distributions as fulfilling SBA-AG: SSC-AS, SBA-HE, SBA-AAP, SSC-AAP.

Written and Oral Expression

Nine (9) credits total, of which at least six (6) must be in Written Expression. Oral Expression is not required by the college but may be required for some majors. If Oral Expression is not required by the major, all nine (9) credits may be in Written Expression. Writing in the Majors (WIM) courses do not count towards Written Expression.

Written Expression (WRT-AG)
All students are required to take at least six (6) credits of Written Expression and may take nine (9) credits to fulfill the Written and Oral Expression requirement. Courses that fulfill the Written Expression requirement in CALS focus on enhancing students' writing skills. Courses meeting this requirement devote at least 50% of class time to writing proficiency, involve at least five (5) writing assignments with detailed feedback, and emphasize revision and development. These courses ensure personalized attention and help students articulate ideas clearly, argue effectively, and engage with evidence critically. This structure supports students in improving both their writing mechanics and their ability to communicate persuasively across contexts.

CALS also accepts FWS courses as fulfilling WRT-AG. Transfer students may have courses that meet the SUNY Writing Requirement considered to fulfill this requirement.

Oral Expression (ORL-AG)
Students may take one (1) Oral Expression course towards the nine (9) required credits for Written and Oral Expression. Courses that fulfill the CALS Oral Expression requirement enhance students' public speaking and communication skills. Courses meeting this requirement center on improving oral proficiency, dedicating over 50% of class time to the principles of effective communication. Each course involves at least five (5) formal oral presentations, with four (4) undergoing detailed revisions based on structured feedback that focuses on speech organization, clarity, evidence use, and delivery. These courses offer personalized guidance and encourage students to apply feedback to subsequent presentations. The aim is to refine students' abilities to articulate ideas persuasively and adapt messages for different contexts, ensuring they can communicate effectively on any topic.

Engaged, Experiential, Entrepreneurial (E3) Learning Milestone

The E3 Learning Milestone allows students to blend experiential learning with academics, apply theory to practice, and deepen their community and professional engagement. This milestone emphasizes learning through experience, engagement, and/or entrepreneurship, encouraging students to apply their academic knowledge in real-world settings in collaboration with diverse groups and community partners. By completing an E3-designated course or experience, students are able to link their classroom learning with practical application, understand how their experiences align with their academic goals at Cornell, and recognize their contributions to a broader community. Eligible E3 experiences include community-engaged courses, undergraduate research, internships, study-abroad programs, and more—each designed to foster these outcomes and enhance the student's role in their field and community.

Learning Outcomes
Upon completion of a course or experience that fulfills the E3 Learning Milestone requirement, students should be able to:

- Make connections between their disciplinary and scholarly learning and the practice or application of that knowledge.
- Explain how their course/experience contributes to and is informed by their learning goals at Cornell (i.e. in their major or course of study, as they define it).
- Explain how they engaged with and contributed to, or served, a community or cause greater than themselves.

The E3 Learning Milestone can be fulfilled by courses or non-course-based experiences. Courses cannot apply to another distribution requirement if used for E3.

The following courses are accepted as fulfilling E3:

- Any course with CU-CEL attribute.
- Any course with EEE-AG distribution.
- CALS E3 Research and Teaching courses with EEE-AG. With advisor approval some Independent Study (4970) and Internship academic components (4960) may fulfill this requirement.

Courses and experiences that fulfill the E3 Learning Milestone must meet the following requirements:

1. Involve practice and application of knowledge in a real context.
2. Provide learning outcomes at the outset of the course or experience, including but not limited to the learning outcomes articulated above.
3. Include an assignment or activity that promotes student reflection on their experience.

College of Human Ecology Graduation Requirements

It is important for students to track their graduation progress by comparing their Advisement Report in Student Center and current transcript with an appropriate curriculum sheet. Official transcripts may be obtained at the Office of the University Registrar (B07 Day Hall). Curriculum sheets are available on the Human Ecology website (http://www.human.cornell.edu/academics/policies/degreeprogress/curriculumsheets/). Students are responsible for planning course

selections to ensure that graduation requirements are fulfilled in eight semesters. Transfer students are allowed fewer semesters based on the number of transferable credits granted at admission. Students requiring additional semesters to fulfill their graduation requirements must meet with a Human Ecology counselor (1210 MVR Hall) and request to petition for an extension.

Grade Point Average (GPA) Requirement for Graduation

- Students must earn a minimum cumulative GPA of 2.0 (C) or better to graduate.

Credit Requirements

Cornell Credit Requirements

- To graduate, a student must earn a minimum of 120 academic credits. Physical education credits and 10XX courses do not count toward the 120 required credits.
- Of the 120 credits required to graduate, at least 60 credits must be earned at Cornell University (applicable to transfer students).
- Students who matriculate as first-years may apply a maximum of 15 non-Cornell credits earned toward the 120 credits required for graduation. These credits include AP, IB, and college credits earned elsewhere. Refer to Advanced Placement Credit for full details.
- No college credit earned before matriculation and used to meet Cornell's minimum admission requirements may be counted in the 120 credits required for graduation. This policy does not apply to transfer students.
- Courses taught by a college in the high school setting or counted toward high school graduation are not allowed to count for either credits or fulfillment of requirements (i.e., Syracuse Project Advance).
- Cornell extramural credit (defined below) is limited to 15 credits toward the 120 required.
- Strict limitations exist on the number of credits that can be applied toward the 120-credit minimum for special studies courses (including but not limited to 4000, 4010, 4020), for 4030 courses, and for courses taken with an optional S–U grade. Details follow.

Human Ecology Credit Requirements

The college divides the 120 minimum required academic credits into four general categories. (Students should refer to curriculum sheets for their major for specific details on course selections. Curriculum sheets are available on the college website (http://www.human.cornell.edu/academics/policies/degreeprogress/curriculumsheets/).) These categories are detailed below.

- College distribution
  - Natural sciences
  - Social sciences
  - First-year writing seminars
  - Humanities
  - Quantitative and analytical courses (math and statistics)
- Major Requirements
- Elective credits
- Physical education

Human Ecology General Requirements

Human Ecology Core Courses

Students must complete these three courses in their first three semesters (beginning with students entering in Fall 2024):

Code	Title	Hours
HE 1800	Blazing Your Trail in Human Ecology (Required in the first fall semester of matriculation to HE (first-year students only))	1
HE 1850	Introduction to Human Ecology (Required in the first spring semester of matriculation to HE Human Ecology (first-year, internal & external transfers))	1
HE 2000	Social Justice, Thriving, and the Human Experience (First-Year students will complete HE 2000 in their third semester.) [1]	3

[1] Internal and external transfer students must complete HE 2000 in their first fall in Human Ecology.

Human Ecology Credits: 45 credits from College Distribution, Major Requirements and Electives.

- **Courses from: DEA, FSAD, HD, NS, PUBPOL at any level or Human Ecology (HE) non-departmental courses above the 1500-level.**
- 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.
- Additional course-specific rules *(p. 12) are listed below.*

S–U grading rules for this requirement are as follows:

1. If a course is a requirement in College Distribution or Major Requirements, the course may not be taken for an S–U grade (unless it is the only grade option offered for the course).
2. Courses used to count toward Electives that are taken for an S–U grade may also count toward the 45 credit requirement.
3. Students should refer to the section on S–U grading rules for full S–U grading details.

Human Ecology Credits Outside the Major: 11 credits

- Students must complete 11 Human Ecology (HE) credits from outside their major department or PUBPOL at any level or HE above 1500 level.
- FWS, HE non-departmental courses below the 1500 level, Statistics and Research Methods courses (PUBPOL 2100, PUBPOL 3120, DEA 3550, or
- HD 2830), Special Studies (4000, 4010, 4020), and teaching assistantships (HE 4030) do not count toward this requirement.
- These can be taken S/U only if course is NOT used to fulfill a curriculum requirement.
- A maximum of 3 credits from the 4000–4020 special-studies series may be applied to this requirement.
- Additional course-specific rules *(p. 12) are listed below.*

S–U grading rules for this requirement are as follows:

1. If a course counting toward the 9 credit outside-the-major requirement is also a requirement in College Distribution or Major Requirements, the course may not be taken for an S–U grade unless it is the only grade option offered for the course.
2. Courses used to count toward Electives that are taken for an S–U grade may also count toward the 9 credit outside-the-major requirement.

3. Students should refer to the section on S–U grading rules for full S–U grading details.

Course-specific rules that apply to both the 45 Human Ecology credit requirement and the 11 Human Ecology credit outside-the-major requirement:

1. Human Ecology (prefix HE) courses below the 1500-level (e.g., HE 1115) do not count toward either the 45 credit requirement or the 11 credit outside-the-major requirement. These HE–prefix courses that are below 1500-level may be used as elective credit.
2. Experiential credit is applied to Human Ecology's 45 and 11 credit outside-the-major requirements as follows:
   - Capital Semester (HE 4970). All students earn:
     - Human Ecology credits and 8 credits toward the 9 credit outside-the-major requirement.

- Cornell in Washington (PUBPOL 4060).
  - For this entire semester, Public Policy majors earn 8 credits toward the 43 credit requirement, which also count as 8 Public Policy credits.
  - Non–Public Policy majors earn 8 credits toward the 45 credit requirement, which also count as 8 credits toward the 11 credit outside-the-major requirement. The remainder of the credits counts as elective credit.

Elective Credits

Students have individual objectives in choosing courses beyond the minimum requirements of the major. The university is diverse; the departments, centers, and special programs numerous; and the fields of study almost unlimited. Counselors and faculty advisors are available to discuss which courses may interest students and best round out their education. Elective credits can be earned in the endowed and contract colleges of Cornell.

Course Distribution Requirements

Course Distributions are groups of courses categorized by course content. Some requirements on your Curriculum Sheet direct you to choose courses with a specific distribution. This is common for Humanities or Additional Credit requirements, depending on your major.

Minimum Semester Requirements

1. Students enrolling in the college as first-years 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).
2. Students must carry 12 credits each semester, excluding physical education, to be matriculated as full-time students. Mature students must carry a minimum of 6 credits each semester (see Mature Student Guidelines for details).
3. In special cases, a student may petition to carry between 8 and 12 credits. Forms for petitioning this exception and advice on how to proceed are available in the Human Ecology Registrar's Office (1204 MVR Hall).

Special Studies

- A maximum of 12 credits of special study course work from Human Ecology or other colleges will count towards the 120 overall credits. 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 HE 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.

10XX Courses

- 10XX numbered courses do not count toward graduation requirements but do count toward full-time semester status.

Requirements for Majors

- Students must fulfill the requirements specified for a major that are in effect at the time of their matriculation or thereafter. The requirements are detailed in curriculum sheets that are maintained for each academic year.

S-U Grade Options

- The S-U grading option may not be used for College Distribution courses or required major courses unless it is the only grade option offered for those courses. S-U grades may be used for the 9 credits of Human Ecology course work outside of one's major and for Electives.
- Students may apply no more than 12 credits of S-U toward the 120 credits required for graduation. If a required course is offered only S-U, it will not count toward this limit. Also, Honors Research 4990 taken S-U does not count against the 12 maximum limit. Students may take more S-U courses if they choose, but the additional credit may not be applied toward graduation.

First-Year Writing Seminars

In each of their first two semesters of matriculation at the College of Human Ecology, students are required to take a Knight Program First-Year Writing Seminar. This policy also applies to transfer students. One or more of the seminars may be waived for transfer students if the college registrar grants credit for equivalent course work taken before matriculation at Cornell.

Those who do not fulfill this requirement on time will be referred to the Committee on Academic Status. Refer to Criteria for Good Standing on Policies and Procedures page (https://catalog.cornell.edu/human-ecology/#policiesandprocedurestext) for specifics on warning statuses that the committee applies to students who do not complete this requirement.

First-year writing seminars must be taken at Cornell and may not be taken in absentia. Students who receive a score of 5 on either the English Literature and Composition or English Language and Composition Advanced Placement (AP) exams can be exempt from one semester of their first-year writing seminar requirements. No other AP scores will allow a student this exemption or allow for elective credits in the college. Students should be aware that the add/drop period for first-year writing seminars may be shorter in duration than the add/drop period for most Cornell classes.

Ithaca College and Study Abroad Credits

Any credits earned with the Ithaca College exchange program are considered Cornell credits for the purpose of fulfilling the 60 Cornell credit graduation requirement. They may not be used for Human Ecology credit. Study abroad, including exchange, courses may also count as Cornell credit (but not for Human Ecology credit).

Advanced Placement Credit

Students can earn advanced placement credit from one of the following:

1. The requisite score on a departmental examination at Cornell (usually given during orientation week) or on a College Entrance Examination Board (CEEB) achievement test. The requisite scores for the CEEB exams are determined by the relevant department at Cornell, vary by subject, and are listed in the beginning of this catalog. College-specific rules apply toward many AP courses such as biology, English literature, English composition, and statistics.
2. A regular course taught at an accredited college to college students and approved by the relevant department at Cornell. Some departments have delegated the review of courses to college staff according to guidelines they have formulated. Some departments review each request individually. Some departments accept credit from virtually all accredited colleges; some do not.
3. Credit from the International Baccalaureates (IB) is evaluated individually.
4. Refer to Cornell Credit Requirements for details on how many Advanced Placement (AP) credits can be applied toward the 120 credits needed for graduation.

Note: Cornell does not accept credit for courses sponsored by colleges but taught in high schools to high school students, at colleges if enrollment is targeted at high school students, or if the course was used toward high school credit. This is true even if the college provides a transcript of such work. These courses also may not be used to fulfill college requirements. Students who have taken such courses may, however, take the appropriate CEEB test to qualify for credit as in paragraph 1 above. For further information and limitations on Advanced Placement credit, see the front pages of this catalog.

Foreign Language Study and Placement

Students who studied a foreign language before coming to Cornell and who want to continue must take either the CEEB test in that language or a Cornell departmental language placement test. Students should contact the appropriate language department for testing schedules. Human Ecology students who plan to work with non-English–speaking people in this country or abroad often find it necessary to be proficient in another language. Many study abroad programs in non–English-speaking countries require the equivalent of two years of college-level language study.

Extramural Credit

Extramural credit is administered by the Office of Continuing Education and Summer Sessions (B20 Day Hall, (607) 255-4987). Extramural credit is charged by the credit hour at the endowed tuition rate. Students may count only 15 credits of extramural credit toward their degree requirements. A student may enroll for extramural credit during the fall or spring semester only if he or she is not registered in the College of Human Ecology. For example, some students enroll for extramural credit before matriculating at Cornell.

An exception to this rule is credit earned in the Ithaca College exchange program. Students enrolled in this program simultaneously maintains their status as students registered in the College of Human Ecology.

Math Requirement

Students may meet the college level requirement in one of the following ways.

- Any Cornell math course except MATH 1101 Calculus Preparation or MATH 1710 Statistical Theory and Application in the Real World.
  or
- Any Cornell statistics course
  or
- Score of 4 or 5 on the AP Calculus BC exam. (Other AP math credit could be used toward graduation credit but may not be used to meet the math requirement)

Notes:

- Departments may impose additional requirements for majors or specify courses within this requirement.
- Students entering as transfers may apply to have their statistics or math courses approved, but pre-calculus courses will no longer meet this requirement or receive graduation credit.

Learning Outcomes

Upon graduation with the Nutritional Sciences major, students should be able to:

- Integrate knowledge from the biological and social sciences to address nutrition and health problems facing individuals, societies and governments.
- Demonstrate an understanding of the complex and evolving nature of scientific knowledge in the promotion of health and the etiology and prevention of disease.
- Demonstrate the ability to access and critically evaluate scientific information from the primary research literature to investigate the influences of nutrition and other environmental factors in human health and disease.
- Develop positions on nutrition-related health issues.
- Communicate positions on nutrition-related health issues to colleagues and lay/target audiences.
- Demonstrate knowledge of ethical principles, considerations and dilemmas relevant to the research and practice of nutrition.