The 2018-2019 ROADMAP to the DNS Academic Program
# The 2018-2019 Roadmap to the DNS Academic Program
(formerly called “The Survival Guide”)

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Directory for Undergraduate Students
in the Division of Nutritional Sciences

The Division of Nutritional Sciences (DNS)

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Continued on next page
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Who are DNS undergraduates?

The Division of Nutritional Sciences (DNS) is a “Division” instead of a department because it is part of two colleges: the College of Human Ecology (CHE) and the College of Agriculture and Life Sciences (CALS). DNS has three majors:

1. **Nutritional Sciences** (NS)—within either CHE or CALS
2. **Human Biology, Health, and Society** (HBHS)—only within CHE
3. **Global and Public Health Sciences** (GPHS)—within either CHE or CALS

As well as students within the **Biological Sciences major in the Human Nutrition concentration**, who may be within either CALS or the College of Arts & Sciences (A&S) and are assigned DNS faculty advisors.

Major requirements do not differ between colleges—e.g., NS majors in both CHE and CALS complete the same biology, chemistry, and nutrition courses. The difference between being an NS major in CHE vs. CALS is in how students develop their major through their use of elective courses in the respective Colleges.

In general, a student’s choice of College is based on their secondary interests—i.e., those outside their major content area. In CHE, students will find a range of courses and opportunities in topics related to design, people, psychology, and policy. In CALS, students will find a range of courses and opportunities in topics related to plants, animals, economics, and food science. Students should visit each College’s Prospective Students pages within their Admissions websites for more information.

The following pages describe the general content of, and some career paths associated with, each DNS major.
An Introduction to the Nutritional Sciences major
*Available to CHE and CALS students*

What is Nutritional Sciences?

Nutritional Sciences (NS) is a broad, problem-solving field that draws upon biology, chemistry, and the social sciences. The NS major provides students with a strong foundation in the broad field of nutritional sciences as well as thorough training in chemistry and biology.

Completing the NS major helps prepare students to answer questions such as:

- How do dietary patterns influence the health and well-being of individuals, communities, and populations?
- What are the biological mechanisms through which nutrients affect metabolism?
- What are recommended dietary patterns for people of different activity levels and medical conditions?
- How can people be encouraged to adopt and maintain healthy eating patterns?
- What are the roles of governments and businesses in providing accessible, healthy food supplies and in promoting healthy eating practices?

Where might a degree in Nutritional Sciences lead me?

The NS major provides an excellent foundation for several different career paths. Some of these paths include:

- **Medicine** and other health careers such as physical therapist, physician's assistant, nurse practitioner, or clinical pharmacy (also see [The Pre-Health Track as a DNS Undergraduate](#))
- **Dietetics** including nutrition counselling, clinical nutrition, community nutrition, and management of food and nutrition services in business and the health industry (also see [The Didactical Program in Dietetics](#))
- **Fitness and Wellness** including corporate wellness, sports nutrition, exercise science, and athletic training (also see the [Applied Exercise Science minor](#))
- **Nutrition Communications** including nutrition education and outreach programs for businesses, governments, and community organizations
- **International Nutrition & Global Health** including programs concerned with hunger, health, and food supply issues in non-industrialized countries (also see the [Global Health minor](#))
- **Research** including careers that use biochemical, physiological, genomic, clinical, and social science methods to understand how food, diet, and health are related (also see [Undergraduate Research](#) and The DNS Honors Program)

Following graduation from Cornell, most NS majors pursue their career interests through programs of advanced study such as including graduate school, dietetic internships, and medical school.

I’m Unsure About My Interests!

Expect your career interests to develop and possibly change while you are at Cornell! The first two years of curriculum allow you to explore the field of nutrition while you complete foundational courses in chemistry, biology, and the social sciences. The first-year course, NS 1150 Nutrition, Health and Society, introduces students to some important health issues and helps students develop their critical thinking and writing skills. In a 1-credit course, NS 1200 Nutrition and Health: Issues, Outlooks and Opportunities (spring term), students can meet experts working in different fields and learn about critical issues and trends in these fields as well as the requisite knowledge and skills to work in these areas. Take advantage of the different speakers and seminars offered throughout the year to learn about various career options, and discuss your career interests with your faculty advisor and with college counselors specializing in career planning. If you
want to explore other majors, minor fields, or pre-professional paths, your advisor will suggest some people to contact.

What Courses Will I Be Taking?

The foundational curriculum includes introductory chemistry and biology, organic chemistry, biochemistry, physiology and math, as well as introductory courses in the social sciences. Specific college-level requirements (e.g., social sciences and humanities classes) will depend on whether a student is completing an NS through CHE or CALS. In all cases, it is very important to plan and sequence chemistry and biology courses appropriately and as early as possible!

NS students also complete five core NS courses:

- **NS 1150** Nutrition, Health and Society (fall freshman year)
- **NS 2450** Social Science Perspectives on Food and Nutrition (fall sophomore year)
- **NS 3450** Introduction to Physicochemical and Biological Aspects of Foods (fall sophomore or junior year)
- **NS 3310** Human Nutrition and Nutrient Metabolism (spring junior year)
- **NS 3320** Methods in Nutritional Sciences (fall senior year)

In addition, NS students select at least three advanced NS courses in from a variety of choices such as:

- **NS 3030** Nutrition, Health and Vegetarian Diets
- **NS 3060** Nutrition and Global Health
- **NS 3150** Obesity and the Regulation of Body Weight
- **NS 3220** Maternal and Child Nutrition
- **NS 4250** Nutrition Communications and Counseling
- **NS 4410** Nutrition and Disease
- **NS 4450** Toward a Sustainable Global Food System: Food Policy for Developing Countries
- **NS 4480** Economics of Food and Malnutrition
- **NS 4500** Public Health Nutrition
- **NS 4570** Health, Poverty, and Inequality: A Global Perspective

Detailed NS-CHE major requirements, NS-CALS major requirements, and NS sample schedules may be found later in the Roadmap to the DNS Academic Program.
An Introduction to the Human Biology, Health, and Society major
Available to CHE students only

What is Human Biology, Health, and Society?
The Human Biology, Health, and Society (HBHS) major, only offered through the College of Human Ecology, helps students to view human health issues from a broad and multidisciplinary perspective.

The HBHS major may be a good fit for students who wish to pursue careers related to issues of human health and well-being. Many health problems are complex in origin and require that experts with different talents and perspectives work together and with the affected individuals and communities to understand the problems, propose solutions, and take steps to reduce health risks. HBHS students develop a strong background in both biological and social sciences, and use these perspectives to examine a range of issues related to human health and well-being.

An HBHS major will help prepare you to answer questions such as:

- What physiological and biochemical processes are involved in health and necessary for resistance to disease?
- What is normal growth of children and what biological, social, cultural and environmental factors are involved?
- How do biological processes explain normal and abnormal behavior?
- How do diet and other lifestyle factors influence the risk of chronic disease?
- What social, political, economic, and cultural factors explain the differential access to health care in the US and how can this situation be changed?
- How can communities, organizations, and practitioners work to promote health in the US and other countries?
- What can be done to reduce disease and promote quality of life for older Americans?

Where might a degree in Human Biology, Health, and Society lead me?
The HBHS major is one step toward a career in the health field. Most HBHS students will need to pursue advanced study to attain the academic and experiential credentials to work in their chosen profession. The HBHS major provides an excellent foundation for graduate and professional schools leading to careers in:

- **Medicine** and other health careers such as physical therapy, physician’s assistant, or clinical pharmacy (also see The Pre-Health Track as a DNS Undergraduate)
- **Allied health professions** such as physical therapist, genetic counselor, occupational therapist, gerontologist, pharmacist, athletic trainer, or strength and conditioning specialist
- **Health education and promotion** careers such as health educator, health communicator, fitness and wellness educator; community action specialist
- **Biomedical research** in epidemiology, toxicology, pharmacology, biochemistry, or exercise physiology (also see Undergraduate Research and The DNS Honors Program)
- **Health administration and policy** careers such as hospital administrator, public health administrator, legislative assistant, program evaluator, or policy analyst
- **Dietetics** including nutrition counseling, clinical nutrition, community nutrition, and management of food and nutrition services in business and the health industry (also see The Didactic Program in Dietetics)

I’m Unsure About My Interests!
Expect your career interests to develop and possibly change while you are at Cornell! The HBHS program gives students time to consider different career interests while they get started completing introductory courses in chemistry, biology, math, writing, and the social sciences. The first-year course, NS 1150 Nutrition, Health and Society, introduces students to some important health issues and helps students
develop their critical thinking and writing skills. In a 1-credit course, NS 1200 Nutrition and Health: Issues, Outlooks and Opportunities (spring term), students can meet experts working in different fields and learn about critical issues and trends in these fields as well as the requisite knowledge and skills to work in these areas. In addition, take advantage of the different speakers and seminars offered throughout the year to learn about various career options, and discuss your career interests with your faculty advisor and with college counselors specializing in career planning. If you want to explore other majors, minor fields, or pre-professional paths, your advisor will suggest some people to contact.

**What Courses Will I Be Taking?**

All students in the HBHS program must complete the graduation requirements for the College of Human Ecology as well as the requirements for the major. All HBHS students complete NS 1150, Nutrition, Health and Society and one introductory course in each of two areas of social science chosen from anthropology, economics, psychology and sociology.

HBHS students develop a strong background in biology and chemistry. After a year of introductory chemistry and biology, students complete a sequence of courses in organic chemistry, physiology, and biochemistry. Students also choose advanced electives in biology selecting from courses in areas such as genetics, evolution, neurobiology, cell biology, microbiology and nutrition. A term of physics and a term of calculus also are required.

To explore issues related to human biology, health, and society, students choose from a wide array of selective courses available in all departments in the College of Human Ecology that provide a more in-depth exploration into the biological science, social science, and nutritional science aspects of public health.

Detailed [HBHS major requirements](#) and [HBHS sample schedules](#) may be found later in this Roadmap to the DNS Academic Program.
An Introduction to the Global and Public Health Sciences major
Available to CHE and CALS students

What is Global and Public Health Sciences?

Public health is the prevention of illness and promotion of wellness in communities, both large and small. The Global and Public Health Sciences (GPHS) major teaches the tools of public health research and action, and their application to population health issues in the U.S. and around the world. Sustained improvement of the health of populations often requires a multidisciplinary approach involving the biomedical, social, behavioral, political and environmental sciences, and careful consideration of the importance of cultural and ethical contexts.

The GPHS major is intended for students who are interested in the health problems of communities and the actions that will protect or improve the lives of large numbers of individuals within communities. Communities might be as small as a village, or as large as a country or even a continent, and successful actions can affect dozens or millions of persons. The work of public health professionals is distinct from the work of clinical professionals, who typically treat individuals after they have become sick or injured. Public health actions often involve educational and/or governmental approaches that influence many persons simultaneously, for example, in order to address issues such as obesity and diabetes, food security, HIV/AIDS and other infectious diseases, quality of food, water and air, and access to health care. The major is especially appropriate for students who wish to pursue advanced study that would lead to leadership positions in governmental or non-governmental organizations that deal directly with current and emerging health concerns in the U.S. or internationally.

Where might a degree in Global and Public Health Sciences lead me?

Opportunities in public health are numerous and growing. The GPHS major provides an excellent foundation for a wide variety of careers in public health, public service, research, social entrepreneurship, medicine and other health careers both domestically and globally:

- **Public health** fields such as epidemiology, biostatistics, health education and behavior, international health, health policy and management, environmental health, and many more
- **Medicine** and other health careers such as physical therapist, physician’s assistant, nurse practitioner, or clinical pharmacy (also see The Pre-Health Track as a DNS Undergraduate)
- **Research** including careers that use biochemical, physiological, genomic, clinical, and social science methods to improve human health and well-being domestically and globally (also see Undergraduate Research and The DNS Honors Program)

In many cases, these career paths will require appropriate graduate or professional training, such as a Master’s in Public Health. While the Global & Public Health Sciences major offers the broad interdisciplinary perspective to prepare students for the complex setting, organizations, and specialties encountered in advanced study, students are encouraged to meet with advisors and career counselors to ensure appropriate undergraduate preparation, as specific requirements differ among the various fields.

What does being a Global and Public Health Sciences major look like?

GPHS majors develop a strong background in biology, general chemistry, organic chemistry, biochemistry, and physiology. These courses collectively provide a foundation with which to understand the biomedical basis of public health issues. GPHS students also complete several core courses, a supervised Experiential Learning Opportunity, and a range of upper-level selectives, all of which are described in more detail below.

**Core Courses**

- **NS 1600** Introduction to Public Health (*mandatory* fall freshman year)
- **NS 2600** Introduction to Global Health (*mandatory* spring freshman year)
- **NS 2060** Preparation for Engaged Learning in GPHS (*mandatory* fall sophomore year)
- **NS 3600** Epidemiology
- **NS 4600** Explorations in Global and Public Health
NS 1600 and NS 2600 introduce students to the principles of public health practice and research, domestically and internationally. Using case studies, students will learn about the achievements, challenges, and controversies in the field of public health, and the range of career opportunities. NS 2060 helps to prepare GPHS majors for their Experiential Learning Opportunity (described below). NS 3600 introduces students to epidemiology, which is often referred to as the cornerstone of public health. Epidemiology and biostatistics are the foundation for public health research and practice. Epidemiology is the study of the distribution and determinants of health and well-being in human populations. Biostatistics is the application of statistics to biology, in this case to biomedical problems, and includes the analysis, interpretation and inferences in health-related studies. Epidemiology and biostatistics (preferably STSCI 2150 Introductory Statistics for Biology) should be completed within the first five semesters. Upon completion of the Experiential Learning Opportunity, seniors enroll in NS 4600 Explorations in Global and Public Health, the capstone course in the major. This course involves, in part, a reflective document and presentation that connects the experiential component with the core principles of public health as presented in coursework taken over the previous three years.

**Experiential Learning Opportunity**: GPHS majors also complete a supervised Experiential Learning Opportunity (minimum of 3 credits) in either a laboratory or community setting. Experiential Learning Opportunity will provide GPHS students with a unique opportunity to connect theory and practice, to learn in unfamiliar contexts, to interact with others unlike themselves, and to practice using knowledge and skills in an applied public health setting. Through this requirement, students will be challenged to engage more effectively with the content of their courses while also learning about citizenship and about themselves as individuals. In addition, students will gain a deeper understanding of public health issues and problems and have the opportunity to enhance research, writing and critical thinking skills by applying knowledge and skills learned in the classroom to a public health community or laboratory setting. Students choose from a list of supervised experiences in the local community, on-campus laboratory, off-campus academic setting (e.g. Urban Semester in NYC, Cornell in Washington, Capital Semester in Albany), or international field setting in a resource-poor environment. Some settings—e.g., international placements—may involve pre-departure preparation and/or additional expenses.

**Typical GPHS Core Course Sequence**

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
<th>SUMMER</th>
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<tbody>
<tr>
<td><strong>FRESHMAN</strong></td>
<td></td>
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<tr>
<td>NS 1600 Introduction to</td>
<td>NS 2600 Introduction to Global Health</td>
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<tr>
<td>Public Health</td>
<td>STSCI 2150 Statistics for Biology</td>
<td></td>
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<tr>
<td><strong>SOPHOMORE</strong></td>
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<tr>
<td>NS 2060 Preparation for</td>
<td>NS 3600 Epidemiology (requires STSCI 2150)</td>
<td></td>
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<tr>
<td>Engaged Learning</td>
<td></td>
<td></td>
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<tr>
<td><strong>JUNIOR</strong></td>
<td>Experiential Learning Opportunity</td>
<td></td>
</tr>
<tr>
<td>NS 4600 Explorations in</td>
<td>Many options in Fall, Spring, or Summers</td>
<td></td>
</tr>
<tr>
<td>GPHS (capstone)</td>
<td>May require additional context-specific preparation, e.g. NS 4601 (Individual faculty sections) and/or NS 4620 (Tanzania, Zambia, DR)</td>
<td></td>
</tr>
<tr>
<td><strong>SENIOR</strong></td>
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<tr>
<td>NS 4600 should be taken</td>
<td>NS 4600 should be taken fall of the junior year if the</td>
<td></td>
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<tr>
<td>of the junior year if the Experiential Learning Opportunity has been completed.</td>
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</table>

**Selectives**: Given the interdisciplinary nature of population health problems, students are required to take one advanced course in each of the following three areas: Social and Behavioral Health, Biological Aspects of Public Health, Environmental Health, and Health Policy & Practice. Students choose from a list of courses in each area according to their interests and course schedule. Topics include public health microbiology, public health nutrition, nutrition and disease, nutrition and global health, social inequalities in physical and mental health, the U.S. healthcare system, reproductive health, and risk analysis and management.

Detailed GPHS-CHE major requirements, GPHS-CALS major requirements, and GPHS sample schedules may be found later in this Roadmap to the DNS Academic Program.
The Human Nutrition concentration

*In the Biological Sciences major, available to CALS and A&S students*

Human Nutrition is one of many concentrations available to Biological Sciences majors at Cornell, who are either in the College of Agriculture and Life Sciences or the College of Arts and Sciences. Biological Sciences majors choose from among 14 concentrations in their freshman year, one of which is Human Nutrition. Until that point, they focus on core requirements of the Biological Sciences major and are advised primarily through the Office of Undergraduate Biology (OUB). When they choose a concentration, they are assigned a faculty advisor in their concentration field and begin taking related coursework.

**What is the Human Nutrition concentration?**

The field of nutritional sciences draws upon several disciplines, including biology, to understand the relationships between food, nutrients, and human health. Students completing the concentration in Human Nutrition most often choose to continue their education in medical or graduate school, and pursue careers in the applied aspects of nutrition or in laboratory-based or epidemiological research.

**Learning Outcomes for the Human Nutrition concentration:**

1. Demonstrate core knowledge of metabolism and function of the essential nutrients
2. Demonstrate breadth in biological aspects of nutrition beyond the core

**What courses will I take?**

In addition to the requirements of the Biological Sciences major, the Human Nutrition concentration requires one core course, **NS 3310 Human Nutrition and Nutrient Metabolism (S, 4 cr)**, as well as at least 9 credits selected from a list of didactic NS courses related to the nature and biochemical function of essential and non-essential nutrients, nutrient requirements, the role of nutrients in gene expression, and the role of diet in both risk of chronic disease and treatment of existing disease states.

Students in this concentration are encouraged to complete a diverse set of advanced courses that afford a perspective on current knowledge of nutrient requirements and function and how this knowledge can be put to use. Faculty advisors work with individual students to develop a curriculum that fits the students’ interests. As part of their program, students are encouraged to obtain laboratory experience either through coursework or research. Faculty in Nutritional Sciences are engaged in a wide variety of research activities, including nutritional regulation of gene expression, nutrient function, and regulation of nutritional status, employing diverse approaches such as cell culture, animal experimentation, and human metabolism.

**For information about the requirements of the Biological Sciences major or its other concentrations,** see the Biological Sciences Major Requirements page (https://biology.cornell.edu/academics/major) and/or contact the Office of Undergraduate Biology (216 Stimson Hall, bioadvising@cornell.edu).

Detailed [Human Nutrition concentration requirements](#) may be found later in this Roadmap to the DNS Academic Program.
Courses Offered by the Division of Nutritional Sciences

Some courses offered within DNS are required for one or more majors (NS, HBHS, GPHS) and/or minor fields and pre-professional paths (Global Health, Dietetics). Others are offered as electives to further your knowledge based on 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 incomplete list of NS courses below is grouped into areas of interest to help you begin to plan your elective selections. A complete chronological list of NS courses offered can be found in the Cornell Courses of Study on this page: http://courses.cornell.edu/preview_program.php?catoid=31&poid=15311

Global Perspectives on Human and Health
- NS 2600 Introduction to Global Health (GPHS, Global Health) (S, 3 cr)
- NS 3060 Nutrition and Global Health (GPHS) (odd F, 3 cr)
- NS 4450 // AEM 4450 Toward a Sustainable Global Food System: Food Policy for Developing Countries (F, 3 cr)
- NS 4480 Economics of Food and Malnutrition (S, 3 cr)
- NS 4570 // ECON 3910 Health, Poverty, and Inequality: A Global Perspective (even F, 3 cr)

Epidemiology and Public Health
- NS 1600 Introduction to Public Health (GPHS) (F, 3 cr)
- NS 3600 Epidemiology (GPHS) (F, 3 cr)
- NS 4500 Public Health Nutrition (Dietetics) (S, 3 cr)

Food Quality
- NS 2470 Food for Contemporary Living (Dietetics) (S, 2 cr)
- NS 3450 // FDSC 2000 Introduction to Physicochemical and Biological Aspects of Foods (F, 3 cr)
- NS 4880 Applied Dietetics in Food Service Systems (Dietetics) (S, 3 cr)

Human Health and Nutrition
- NS 1150 Nutrition, Health, and Society (NS, Dietetics) (F, 3 cr)
- NS 1220 Nutrition and the Life Cycle (Dietetics) (S, 3 cr)
- NS 2750 // ANTHR 2750 Human Biology and Evolution (F, 3 cr)
- NS 3030 Nutrition, Health and Vegetarian Diets (S, 3 cr)
- NS 3150 // PSYCH 3150 Obesity and the Regulation of Body Weight (even S, 3 cr)
- NS 3220 Maternal and Child Nutrition (odd S, 3 cr; enrollment restricted – priority to Dietetics students)
- NS 3410 Human Anatomy and Physiology (Applied Exercise Science) (S, 4 cr)
- NS 3420 Human Anatomy and Physiology Laboratory (Applied Exercise Science) (S, 2 cr)
- NS 4410 Nutrition and Disease (Dietetics) (F, 4 cr)
- NS 4420 Implementation of Nutrition Care (Dietetics) (F, 3 cr; enrollment restricted – priority to Dietetics students)

Nutritional Biochemistry
- NS 3200 Introduction to Human Biochemistry (NS, HBHS, GPHS, and Dietetics, or equivalent) (F, 3 cr)
- NS 3310 Human Nutrition and Nutrient Metabolism (NS, Dietetics) (S, 4 cr)
- NS 3320 Methods in Nutritional Sciences (NS, Dietetics) (F, 3 cr)
- NS 3450 Nutritional and Physicochemical Aspects of Foods (NS, Dietetics) (F, 3 cr)

Psychological and Social Influences on Human Nutrition
- NS 2450 Social Science Perspectives on Food and Nutrition (NS, Dietetics) (F, 3 cr)
- NS 4250 Nutrition Communications and Counseling (Dietetics) (S, 3 cr)
DNS Key Resources: Academic Policies and Procedures

The information on this page describes some of the academic policies and procedures that pertain to DNS undergraduates. This includes General Policies and Procedures FAQs as well as considerations and procedures for Changing or Adding a Major or Minor and for Using non-Cornell Courses to Meet Requirements.

General Policies and Procedures FAQs

<table>
<thead>
<tr>
<th>Question</th>
<th>CHE</th>
<th>CALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the graduation requirements in my College (e.g. credits within my College, humanities and social sciences, or writing and communications)?</td>
<td>CHE graduation requirements: <a href="http://courses.cornell.edu/content.php?catoid=3&amp;navoid=8431#Graduation_Requirements_and_Policies">http://courses.cornell.edu/content.php?catoid=3&amp;navoid=8431#Graduation_Requirements_and_Policies</a></td>
<td>CALS graduation requirements: <a href="https://cals.cornell.edu/sites/cals.cornell.edu/files/shared/documents/academics/CALS-Graduation-Requirements.pdf">https://cals.cornell.edu/sites/cals.cornell.edu/files/shared/documents/academics/CALS-Graduation-Requirements.pdf</a></td>
</tr>
<tr>
<td>How do I monitor my progress toward graduation?</td>
<td>Students: In Student Center (<a href="http://studentcenter.cornell.edu/">http://studentcenter.cornell.edu/</a>), select “Academic Requirements” from the drop-down menu. Faculty/staff: In Faculty Center (<a href="http://facultycenter.cornell.edu">http://facultycenter.cornell.edu</a>), search for or select a student under the “Advisor Center” tab, then select “Academic Requirements” from the drop-down menu.</td>
<td>Students: In DUST (<a href="https://dust.cals.cornell.edu">https://dust.cals.cornell.edu</a>), select “Degree Progress.” Faculty/staff: In DUST (<a href="https://dust.cals.cornell.edu">https://dust.cals.cornell.edu</a>), select student from list of advisees, then select “Degree Progress.”</td>
</tr>
<tr>
<td>How do I search for classes?</td>
<td>Use the Class Roster (<a href="https://classes.cornell.edu">https://classes.cornell.edu</a>) of currently active courses to filter by department, class level, number of credits, and more; see instructions here (<a href="https://www.human.cornell.edu/sites/default/files/Academics/Registrar/Course_Distribution_Directions.pdf">https://www.human.cornell.edu/sites/default/files/Academics/Registrar/Course_Distribution_Directions.pdf</a>). See the comprehensive Course Catalog (<a href="https://courses.cornell.edu">https://courses.cornell.edu</a>) for temporarily inactive or off-year courses.</td>
<td>Use available filters in the Class Roster (<a href="https://classes.cornell.edu">https://classes.cornell.edu</a>), such as “Breadth/Distribution” to search for courses that have a certain distribution code in any college.</td>
</tr>
<tr>
<td>How do I find classes that fulfill a particular requirement?</td>
<td>Use available filters in the Class Roster (<a href="https://classes.cornell.edu">https://classes.cornell.edu</a>), such as “Breadth/Distribution” to search for courses that have a certain distribution code in any college.</td>
<td>Within DUST (<a href="https://dust.cals.cornell.edu">https://dust.cals.cornell.edu</a>), click “Degree Planning” and then “College Distribution Requirements.”</td>
</tr>
<tr>
<td>Do I have to take required classes for a letter grade?</td>
<td>Yes; all DNS students, whether in CHE or CALS, must take required courses for a letter grade.</td>
<td></td>
</tr>
<tr>
<td>Can I use AP credits to fulfill any requirements?</td>
<td>See this page for a description of accepted AP credit for DNS majors in CHE, and contact CHE if your scores qualify: <a href="https://www.human.cornell.edu/sites/default/files/Academics/Registrar/ap_cheat_sheet_entering_freshmen.pdf">https://www.human.cornell.edu/sites/default/files/Academics/Registrar/ap_cheat_sheet_entering_freshmen.pdf</a></td>
<td>See this page for a description of accepted AP credit for DNS majors in CHE, and contact CALS if your scores qualify: <a href="https://cals.cornell.edu/sites/cals.cornell.edu/files/shared/documents/academics/Advanced-Placement.pdf">https://cals.cornell.edu/sites/cals.cornell.edu/files/shared/documents/academics/Advanced-Placement.pdf</a></td>
</tr>
<tr>
<td><strong>Use caution: AP credits are not accepted coursework by many grad/med/etc. schools.</strong></td>
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<td></td>
</tr>
<tr>
<td>What is my credit minimum and maximum each semester?</td>
<td>CHE students must take at least 12 credits (not including PE or supplementary courses). After the first two semesters at Cornell, students may petition to take over 18 credits, but may not exceed 22.</td>
<td>CALS students must take at least 12 credits (not including PE or supplementary courses). After the first two semesters at Cornell, students may petition to take over 22 credits, but may not exceed 25.</td>
</tr>
<tr>
<td>How do I petition for an exception to a requirement or policy—e.g. for curriculum substitutions, transfer credit, and late grade option changes?</td>
<td>CHE students submit petitions through CHE Student Pages, here: <a href="https://www.human.cornell.edu/academics/policies/forms">https://www.human.cornell.edu/academics/policies/forms</a></td>
<td>CALS students submit petitions through Chatter under “Forms and Tools.” Substitutions for major requirements are approved directly by DNS rather than by petition.</td>
</tr>
<tr>
<td>What is my credit minimum and maximum each semester?</td>
<td>CHE students must take at least 12 credits (not including PE or supplementary courses). They may petition to take more than 18 credits, but may not exceed 22.</td>
<td>CALS students must take at least 12 credits (not including PE or supplementary courses). They may petition to take more than 22 credits, but may not exceed 25.</td>
</tr>
<tr>
<td>How do I enroll in NS special studies credits (e.g. NS 4010, 4020, or 4030)?</td>
<td>The Class Roster (<a href="https://classes.cornell.edu">https://classes.cornell.edu</a>) has current instructions. All students must enroll in NS special studies credits via the “Special Studies Enrollment Form” through CHE, here: <a href="https://www.human.cornell.edu/academics/policies/forms">https://www.human.cornell.edu/academics/policies/forms</a></td>
<td></td>
</tr>
<tr>
<td>Can I use non-Cornell courses to fulfill a requirement?</td>
<td>See below under “Using non-Cornell Courses to Meet Requirements.”</td>
<td></td>
</tr>
<tr>
<td>How would I change my major or add a major or minor?</td>
<td>See below under “Changing or Adding a Major or Minor.” CHE students may not have a second major.</td>
<td>See below under “Changing or Adding a Major or Minor.” CALS students may have a second major only if it is also in CALS.</td>
</tr>
</tbody>
</table>
Changing or Adding a Major or Minor

It is common for interests to evolve in college, which may mean a change in academic track. The options and procedures available to students considering changing their academic track are described below.

Students who are **considering changing majors, but DON’T KNOW what major they want** to transfer into might consider several strategies.

- Talk to counseling and career services personnel available through your College or Colleges of interest, visit Cornell Career Services, and talk to faculty members and peers. They can help you discover the major that best suits your interests.
- Investigate admissions requirements for Colleges and majors of potential interest. When you find a major that interests you, visit the appropriate contact person within DNS (listed below) or contact the department of interest. Talk about career possibilities and your progress toward completion of major requirements in relation to the time you have left at Cornell.
- Consider taking some classes in the potential new major first. These courses would count toward requirements if a switch is made.

Students who **want to change majors and KNOW what major they want** must follow these steps to apply.

- Students who hope to transfer into a major in a **different College** at Cornell (e.g. from CALS to CHE) must first review the internal transfer requirements and procedures (http://internaltransfer.cornell.edu/application-requirements/colleges-and-schools/) and apply for admission into that College.
  - CHE accepts internal transfer applications twice a year: https://www.human.cornell.edu/admissions/undergraduate/transfer/internaltransfer
  - CALS accepts internal transfer applications throughout the year: https://admissions.cals.cornell.edu/apply/transfer/internal/
- Students who hope to transfer into a different major or add a major within the **same College** (e.g. from Biological Sciences in CALS to NS-CALS):
  - CHE students must fill out the CHE Change of Major form: https://www.human.cornell.edu/academics/policies/forms
  - CALS students only need to coordinate approval and a new faculty advisor with their new major department. In DNS, this includes meeting with Dr. Julia Felice to approve the transfer and Terry Mingle to assign a new advisor. CALS students who add a second CALS major must complete the requirements of majors in order to graduate with a double major. It is the student’s responsibility to keep both faculty advisors informed and to obtain both signatures on the Application to Graduate.
- **Students who hope to transfer into the NS or HBHS major** should meet with Dr. Julia Felice (julia.felice@cornell.edu) as soon as possible to review transcripts and major requirements.
- **Students who hope to transfer into the GPHS (CHE or CALS)** should contact Terry Mingle (tpm2@cornell.edu) to obtain and fill out a request form (NOTE: the GPHS major only accepts a limited number of sophomore transfers). The Director of the Global Health Program, Jeanne Moseley, reviews it and meets with the student to authorize or deny the switch. Once authorized, students should follow the procedure for their college described below.
- **Students who hope to transfer into a non-DNS major** must contact that department for requirements and procedures.

Students who **want to add a minor field** must follow department-specific steps to do so, because minors are controlled, tracked, and audited by the academic department or unit in which they are offered.

- DNS students (NS, HBHS, and GPHS majors) may minors in Global Health or Applied Exercise Science.
- DNS students also may pursue any one of 125 formal minors offered by Cornell, which can be viewed on this page under the “Undergraduate Minors” tab: http://www.cornell.edu/academics/fields.cfm
- CALS and CHE students do not need to file paperwork with their home College to add a minor.
  - For CHE students, information on completion of requirements must be reported by the unit sponsoring the minor to the CHE Registrar for it to be noted on the transcript.
  - For CALS students, when filing Part II of the Application to Graduate, it is the student’s responsibility to identify the minor and to obtain signatures from all major and minor advisors. Minors are added to the record just prior to degree completion and will appear on the final transcript post-graduation.
Using non-Cornell Courses to Meet Requirements

Some students find it beneficial to use non-Cornell courses to fulfill major or College requirements, such as those who transferred into their major late, those who are also working toward minors or pre-professional paths, and those planning to spend a semester studying abroad. Students should meet with their faculty advisors to discuss all requirements and recommended course sequences, and must consider carefully how the course will fit into their Cornell graduation plan. **Students are ultimately responsible for identifying school(s) and course(s), conferring with advisors, and meeting graduation requirements on time.**

Some **general tips** apply to many situations:

- Look for courses that fulfill general elective or College distribution requirements, such as humanities, social sciences, and statistics.
- It is **not generally permitted to take major core courses** away from Cornell, as it is very difficult to find an adequate match for both content and rigor.
- It is **not generally recommended that students take biology and chemistry courses** away from Cornell, particularly if interested in pre-health (e.g. pre-med) paths. It is more challenging to find adequate equivalent courses, and many clinical programs may not accept transfer credits (with the exception of those from external transfers). Students who wish to take science courses away from Cornell must pay careful attention to evaluating courses for equivalence in content, credit hours, and rigor. For example:
  - **Introductory chemistry** courses must be at least equivalent to CHEM 2070-2080. Adequate sequences are those approved for science majors, biology majors, or pre-med majors.
  - **Introductory biology** courses should be chosen from sequences approved for science/biology majors or pre-health majors. Because introductory sequences at different institutions cover similar material but in a different order, it is often better to complete a two-course sequence at one place than try to match a term elsewhere with a term at Cornell.
  - **Organic chemistry** choices vary. Pre-health students who take organic chemistry elsewhere (not recommended) should take a two-semester series approved for pre-health students of at least 8 credits (lecture and lab), equivalent to CHEM 3570-3580 and CHEM 2510. Students not in pre-health tracks may take a one-semester course equivalent to CHEM 1570 and CHEM 2510.
  - **Biochemistry** courses must be equivalent to Cornell offerings (NS 3200 (4 cr), BIOMG 3300 (4 cr), BIOMG 3350 (4 cr), or (BIOBM 3310 and 3320 (5 cr)), with 4 credit hours, organic chemistry as a prerequisite, and all three content areas (i.e., proteins, metabolism, and molecular biology).
  - **Physiology** courses must be equivalent to NS 3410 or BIOAP 3110 and have a full year each of introductory chemistry and biology as prerequisites. Medical schools and biology departments in four-year colleges will be the best places to find the types of courses needed to substitute for NS 3410 or BIOAP 3110. Online courses may not be accepted.

**CHE Approval Procedures:** CHE requires **prior approval** for non-Cornell courses via the “In Absentia Petition” on the CHE Registrar’s Forms and Petitions website (http://www.human.cornell.edu/registrar/forms-and-petitions.cfm) to ensure that the credit will be accepted by both the College and the major. Complete forms include 1) a description of the course from the college’s catalog or web pages and 2) a full syllabus (i.e., one that includes a list of topics taught at each lecture). **Important notes:**

- Students should **obtain approval before registering** in a course at another school to be sure that the credit will be accepted by both the College and the major. Students should **start early**, as some summer courses fill up quickly and the approval process may take a few weeks.
- Students who are undecided should **get all potential courses approved** in advance to leave options open, because approval does not commit the student to taking any course.
- The Human Ecology Registrar approves all courses that are taken to fulfill college distribution requirements and makes the final approval on all petitions.
- **After the course is completed, the student must send an official transcript** to the CHE Registrar.

**CALS Approval Procedures:** CALS requires **prior approval** for non-Cornell courses via the “Pre-Approval Form for Non-Cornell Credit” form, which specifies how many transfer credits will be accepted and which graduation requirements they will be applied to. To evaluate the potential use of transferred credit to fulfill College distribution requirements, students must contact the CALS Registrar’s Office. To evaluate the potential fulfillment of major-level requirements, students must work with their faculty advisor and/or the Academic Affairs Office in DNS to obtain approval.
DNS Key Resources: Advising, Career Exploration, and Academic Success

The information on this page describes the resources available to DNS undergraduates for advising, career exploration, and academic success during their time at Cornell. This includes advising in Academics, Majors, and Careers, resources for Academic Success and Support, and helpful Strategies for Transfer Students.

Advising: Academics, Majors, and Careers

Faculty advisors, the DNS Academic Affairs Office, and the College advising offices work closely together to be sure that students’ academic and major advising needs are met.

- **DNS faculty advisors** advise HBHS, GPHS, and NS majors and Biological Sciences majors with a Human Nutrition concentration. They provide primary counsel for a student's academic program, helping to plan courses and follow progress toward graduation as well as offer guidance related to academic opportunities, difficulty with courses, special issues, or problems. Students will want your faculty advisor to get to know you quite well because in your junior or senior years you may need a letter of reference for jobs, internships, or graduate programs. If a student wishes to change advisors (only after their first year), they **must** identify a faculty member willing to advise them and have the new faculty advisor contact Terry Mingle (tpm2@cornell.edu) to authorize the change. **Make the most out of this very important relationship by:**
  - Keeping in touch with them on a range of issues: If you are thinking of changing your major or college, need help with developing career interests, are having trouble in your courses, are experiencing illness, family issues, or personal problems that prevent you from attending or concentrating on your classes, or feel overwhelmed by courses and other commitments (work, athletics, family). Your faculty advisor can be a valuable resource and advocate in helping connect you to College and University resources.
  - Showing respect for their busy schedules: 1) Make (and keep!) **appointments** rather than dropping by, particularly in busy times, 2) Let them know the **purpose** of your meeting so that they can set aside and prepare for appropriate time, 3) Coming **prepared** with your questions and supporting documentation (e.g. proposed course/career plan, unofficial copy of transcript, forms to be signed).
  - Knowing your requirements and progress: Rules and requirements vary across the colleges and by year of matriculation. Faculty do not (and do not have to) know them in detail; it is the student’s responsibility to understand the requirements and policies for their College and major. Read the information available throughout the Roadmap to DNS and the links within it, and ask your faculty advisor, the DNS Academic Affairs Office, or your College’s academic office for clarification if needed. Do not assume that your friend knows the rules that apply to you!
  - Making a plan and expecting it to change: Develop both a short- and long-term plan to account for everything you need so that you can best identify how to adapt your schedule to changes in the course catalog and your evolving interests as well as make the most room for elective courses later on.

- **The DNS Academic Affairs Office** (Kinzelberg Hall B36 // (607) 255-4410 // aadns@cornell.edu) is a place to go when regular faculty advisors are unavailable or unable to help with a specific issue. The office includes Dr. Julia Felice, Associate Director of Undergraduate Studies (julia.felice@cornell.edu), and Terry Mingle, the Undergraduate Student Services Assistant (tpm2@cornell.edu). The Academic Affairs Office also assists students with complex course scheduling, e.g. transfer courses or study abroad, coordinates approval of academic petitions, and keeps students informed of course changes and special seminars and opportunities.

- **College Advising and Counseling Offices** are also a place to go when regular faculty advisors are unavailable or unable to help. They provide professional counseling and referral services to students who have academic, personal, and/or family problems, help students who are undecided or changing their majors, and provide general career planning services.
Career Services: Cornell offers career services at both the College and University level, and these services are available to students at every stage of career exploration and planning! Each office offers scheduled appointments and walk-in hours.

- **CALS Career Development Office**: 140 Roberts Hall // (607) 255-2257 // [http://cals.cornell.edu/academics/advising/career](http://cals.cornell.edu/academics/advising/career)
- **University Career Center**: 103 Barnes Hall // (607) 255-5221 // [http://www.career.cornell.edu/](http://www.career.cornell.edu/)
- **Career Exploration Guides**: published annually by the University Career Center to help students explore and plan for their post-Cornell educations and careers. Links to these guides are below, but the most recent guides may be found at the start of each academic year on this website: [http://www.career.cornell.edu/resources/additional-ccs-guides.cfm](http://www.career.cornell.edu/resources/additional-ccs-guides.cfm)
  - Fellowships (e.g. for study and academic/professional travel): [http://www.career.cornell.edu/resources/upload/Fellowships_2018-19.pdf](http://www.career.cornell.edu/resources/upload/Fellowships_2018-19.pdf)

Academic Success and Support

There are a wide range of resources at Cornell for students who are having a difficult time with coursework in particular classes as well as those who would like help building their skills for studying, time management, or test taking. The following list describes some important resources for course-specific needs as well as for more general academic support and skills-building.

- **Course teaching staff**: Interact with the faculty, instructors, and TAs in your classes. If you don’t! understand material or assignments, they need to know—and need to hear from you to know. They!usually are happy to assist students who are working hard but having trouble. See them early when they!can be most helpful. Many courses also offer free walk-in tutorials. If you do poorly on the first assignment!or exam, contact them to find sources of help. You probably need new strategies rather than simply!planning to study longer or better for the next exam, which often does not work!
- **Supplemental courses**: Students can enroll in 1000-level courses that offer course-specific support for! other courses (e.g. CHEM 1007 supports students in CHEM 2070). These supplemental courses clarify! lecture material, help students keep pace with lectures, and assist students with exam preparation. Courses in Biology, Mathematics, Physics, Economics, and Statistics are also offered.
- **Courses for building individual academic and personal skills**: such as HE 1115 Critical Reading and! Thinking (F/S, 2 cr) and ALS 1700 Maximizing Individual Success (F/S, 1 cr)
- **Learning Strategies Center**: The LSC offers both course-specific support in several science- and math-based courses and general support to groups and individuals in areas such as Time Management,!! Textbook Mastery, Rapid Reading, Learning from Lecture, Exam Preparation and Strategies. For example, HE 1000 Critical Reading and Thinking is a 2 credit course to help students increase reading,!!thinking and learning skills. Find out more at [http://lsc.cornell.edu/](http://lsc.cornell.edu/).
- **Center for Teaching Excellence**: The CTE offers both course-specific and general support to Cornell!! students, including supplemental instruction for major introductory courses, tutorial assistance, and!! workshops. Find out more at [http://www.cte.cornell.edu/](http://www.cte.cornell.edu/).
- **Writing Walk-In Service**: The Writing Workshop offers courses for credit and a Walk-In Service!! ([http://knight.as.cornell.edu](http://knight.as.cornell.edu)). Walk-In tutors at three campus locations!help students with particular pieces of writing, including academic papers, at any stage of development,!!focusing on improving the substance and quality of the writing by helping the writer with issues of self-confidence, active use of the imagination, and critical thinking. **Tutors do not proofread or edit**.
Strategies for Transfer and Exchange Students

Transfer students are assigned a faculty advisor during Orientation, and are welcome to direct questions to Dr. Julia Felice (julia.felice@cornell.edu) before that point.

Advising, Transfer Credits, and Grades: Transfer students often have to adjust to new advising and grading systems than they experienced at their previous systems, and have to consider transfer credits.

- Cornell students are expected to be proactive and self-directed in identifying and seeking advising support, which commonly entails emailing faculty advisors directly (see the If you are unsure of where to go or who to ask, start with the DNS Academic Affairs office (Kinzelberg Hall B36 // (607) 255-4410 // aadns@cornell.edu)!
- Unlike many schools that do not offer grades above an A, Cornell allows grades of A+, which can lead to a GPA above 4.0. In addition, many classes curve grades at the end of the semester. As a result, depending on the professor, the class, and everyone else’s academic performance, your final grade might differ significantly from your raw test scores.
- You will have to work with your College Registrar to figure out which transfer credits might fulfill your College distribution requirements, and with DNS to figure out which might fulfill major requirements; see Key Resources: Academic Policies and Procedures for more information.

Course Planning: Students can transfer in a maximum of 60 credits to Cornell, and must complete a minimum of 60 credits at Cornell. CHE transfers must complete 43 CHE credits, and CALS transfers must complete 55 CALS credits. Courses from past schools may count if they are approved as substitutes by College Registrars. Beyond that, there is no common or recommended first-term schedule for transfer students, even within the same major, because transfer students come from diverse backgrounds and have a wide range of goals for their time during and after Cornell. Each transfer student must develop a schedule that builds on previous academic experiences, allows adjustment to Cornell's learning environment, enables the exploration of new academic options, and keeps the student on track to meet college and major graduation requirements! Below is a list of important things for transfer students to consider when making their schedules:

1. **Which major (i.e., NS-CHE, NS-CALS, or HBHS) or special career interests (e.g., pre-health, the Didactic Program in Dietetics) do you have?** Review relevant sections in the Survival Guide, starting including pages describing available majors, minor fields, pre-professional paths, and opportunities for DNS undergraduates. Most questions can and will be answered during the DNS Orientation.

2. **How much of the required biology and chemistry sequences have you completed?** This is a key starting point in planning your schedule. Both the NS and HBHS majors require two semesters of introductory biology, an introductory biology lab, and two semesters of introductory inorganic chemistry, which are prerequisites for many of the other required courses. Most new students should avoid taking two advanced science courses in the first term.

3. **How do the courses you have already taken meet your Cornell requirements?** In general, The College Registrar and/or the DNS Academic Affairs Office determine whether and how previous courses meet major and College requirements. The use of some transfer credits to fulfill Cornell requirements may not be determined until the first Cornell semester begins, but it is still possible to determine an appropriate list of first semester courses ahead of time by 1) reviewing major requirements, 2) identifying which previous courses may be adequate substitutes for major requirements, 3) obtaining full syllabi for these courses, and 4) contacting Dr. Felice (julia.felice@cornell.edu).

4. **For NS majors and students interested in dietetics) Where are you in terms of any nutritional sciences courses that may be required for your major?** Which NS courses must you still take or are you unsure about? Transfer students should be sure that you understand the required sequences of NS courses, and students interested in dietetics should review the section in this Survival Guide on The Didactic Program in Dietetics.

5. **What other courses are you interested in taking?** Students should make a list of the courses that they would like to take, and use the Class Roster (classes.cornell.edu), which lists the courses
actively available in the following two semesters, to find the descriptions and times and terms that these courses are offered to be sure how they may fit.

6. **What other courses must you take to fulfill your intended major, career preparation, or college graduation requirements?** Most transfer students have already taken introductory courses in the social sciences, written communications, and humanities, and many have also taken quantitative and analytical course(s) at your previous college(s). However, transfer students should be sure to review the complete requirements for a student in their major and College within this Survival Guide. The CHE and CALS Registrars also have summary sheets describing College requirements.

7. **Make a tentative schedule for the first Cornell term and plans for the upcoming terms, and review it with Dr. Felice or the assigned faculty advisor.** Most new Cornell transfer students should aim for 13-15 credits in their first semester, particularly if they are taking an advanced science course such as biochemistry or organic chemistry. Thinking ahead and developing tentative schedules for the remaining semesters at Cornell is strongly recommended. This strategy helps students to assess whether their plans are realistic and to identify any important conflicts in course scheduling. Proposed schedules should be reviewed regularly with faculty advisors, and revised over time as students’ needs and interests evolve.
DNS Key Resources: *Health and Well-Being*

The information on this page offers some of DNS undergraduates’ sources of support in their efforts to support their health and well-being during their time at Cornell. This is not a comprehensive list, but likely offers a good place to start!

Cornell offers a wide range of information, resources, and services to support students’ health and well-being, many of which are offered through Cornell Health ([https://health.cornell.edu/](https://health.cornell.edu/)). Particularly helpful places to start are:

- The searchable library of information and resources related to a wide range of topics, including stress management, sleep, depression and anxiety, sexual health and relationships, body image and disordered eating, alcohol and drug use, and how to respond to concern for others ([https://health.cornell.edu/resources/health-topics](https://health.cornell.edu/resources/health-topics)).
- Pages that describe resources for groups of students who may need additional or specialized support, including new students, international students, students with disabilities and/or chronic health conditions, LGBT students, student athletes, summer students, and veterans ([https://health.cornell.edu/resources/especially-for](https://health.cornell.edu/resources/especially-for)).

Many Cornell students find that they benefit from counseling, psychological services, or other forms of support for their mental and emotional health. Some important sources of that support at Cornell are:

- **Counseling & Psychological Services (CAPS)** ([https://health.cornell.edu/services/counseling-psychiatry](https://health.cornell.edu/services/counseling-psychiatry)) provides confidential, professional support for a range of needs, including stress & anxiety, depression & loneliness, trauma or grief, adjustment challenges, relationship difficulties, questions about identity, and managing existing mental health conditions.
- **Empathy, Assistance and Referral Service (EARS)** ([http://orgsync.rso.cornell.edu/org/ears](http://orgsync.rso.cornell.edu/org/ears)) provides anonymous, free, and confidential counseling services from student peers to both undergraduate ([http://orgsync.rso.cornell.edu/org/ears/undergraduates](http://orgsync.rso.cornell.edu/org/ears/undergraduates)) and graduate ([http://orgsync.rso.cornell.edu/org/ears/grad_students](http://orgsync.rso.cornell.edu/org/ears/grad_students)) students. For services or more information, call (607) 255-EARS (3277) or visit 213 Willard Straight Hall.
- **Let’s Talk** ([https://health.cornell.edu/services/counseling-psychiatry/lets-talk](https://health.cornell.edu/services/counseling-psychiatry/lets-talk)) provides confidential, free, informal drop-in consultation with a Cornell Health counselor. No appointments are necessary; services are first-come, first-served. Regular semester hours are posted on the website.

Those with concerns about an undergraduate or graduate student can consult the DNS Student Distress Protocol, available on the back of this page, which describes ways to recognize and respond to different signs of distress.
Division of Nutritional Sciences Student Distress Protocol

**Signs of Distress** You might notice one serious sign or a cluster of less serious signs from different categories.

- **EMOTIONAL** Irritability, anger; sadness, crying, anxiety; showing extreme reactions; expressions of disinterest, apathy, or hopelessness; suicidal comments
- **COGNITIVE** Decline in work or academic performance; poor concentration or decision-making; out of touch with reality, odd speech
- **PHYSICAL** Frequent health issues; problems with sleep or eating; rapid heartbeat/jittery; disheveled appearance; social withdrawal; increased drinking or drug use

**Levels of Distress**

- **CONCERN** Visible distress, personal loss or significant life event, academic difficulties, sleep or eating problems, emotional outbursts, social withdrawal
- **URGENT** Expressions of hopelessness; talk of suicide; being out-of-touch with reality
- **EMERGENCY** Immediate threat of harm to self/others

When you observe or hear a concerning level of distress in an undergraduate or graduate student:

- **IF EMERGENCY**: If you believe that you and/or someone else is in any kind of immediate physical danger at any time, call Cornell campus police at 911 (campus phone) OR 607-255-1111 (cell or off-campus phone).
  - Tell them everything you know about the student and the situation, including who else is present.
  - The police will coach you about what you should do next.
  - Once the situation has been addressed, proceed with next steps, below.

- **IF URGENT**: During normal business hours, call Cornell Health (Gannett) at 607-255-5208 and ask to speak to a counselor. After business hours, call Cornell Health (Gannett) at 607-255-5155.
  - If the student is present, tell the student you would like to help and need to get guidance from someone more knowledgeable. If you need to leave to make the phone call make sure someone else stays with the student.
  - Tell the counselor everything you know about the student and the situation. They will coach you about what you should do next.
  - Once the situation has been addressed, proceed with next steps, below.

- **IF CONCERN**: During normal business hours:
    - Tell them everything you know about the student and the situation.
    - Tell them about assistance you have already received from others, and what they advised.
    - They may ask for assistance from other college and/or Cornell resources.
  - **GRADUATE**: Call the Office of Graduate Student Life, 607-255-5184, or Graduate School, 607-255-5820.
    - Share the information noted for undergrads.
    - Provide whatever assistance Student Services or the Graduate School request.

**Note:** Although you may walk the student to Cornell Health (Gannett); to CALS Student Services (140 Roberts Hall); to CHE Office of Student and Career Development (172 MVR); to A&S Academic Advising (G17 Klarmann Hall), or to the Graduate School (384 Caldwell Hall), under no circumstances should you drive the student anywhere if there is immediate danger, or if you are quite concerned. **Additional information:** [https://health.cornell.edu/services/counseling-psychiatry/resources-faculty-staff](https://health.cornell.edu/services/counseling-psychiatry/resources-faculty-staff)
Student Record Privacy Statement
Annual Notification Under FERPA

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. Further details may be found in Cornell Policy 4.5 Access to Student Information. These rights include those listed below. For more information, visit: http://courses.cornell.edu/content.php?catoid=33&navoid=8465

1. The right to inspect and review the student’s education records within 45 days of the day the university receives a request for access.

Students should submit to the office of the university registrar, written requests that identify the record(s) they wish to inspect. The university official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the university official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

2. The right to consent to disclosures of personally identifiable information contained in the student’s education records, except to the extent that FERPA authorizes disclosure without consent:

A. Disclosure to school officials with legitimate educational interests. A school official is a person employed by the university in an administrative, supervisory, academic (including emeritus faculty), research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the university has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a person serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record to fulfill his or her professional responsibility.

B. Upon request, to officials of another school in which a student seeks or intends to enroll.

C. To parents or legal guardians of dependent students as that term is defined in the Internal Revenue Code. In general, the university does not make education records available to the parents of a student. However, where the university believes that it is in a dependent student’s best interest, information from the student’s education records may, at the university’s discretion, be released to the parents or legal guardians of such a dependent student. Such disclosure generally will be limited to information about a student’s official status at the university, but parents or legal guardians of a dependent student may also be notified upon the authorization of the dean of the student’s college, or the Vice President for Student and Academic Services, or the Dean of Students, or their designees in the following cases:
  • when a student has voluntarily withdrawn from the university or has been required by the university to withdraw;
  • when a student has been placed on academic warning;
  • when the student’s academic good standing or promotion is at issue;
  • when a student engages in alcohol-or-drug-related behavior that violates Cornell policies;
  • when a student has been placed on disciplinary probation or restriction.
  • in exceptional cases when a student otherwise engages in behavior calling into question the appropriateness of the student's continued enrollment in the university.

D. Disclosure of directory information. Cornell University has defined directory information to include the following: name, photograph, major field of study and college attended, dates of attendance, enrollment status, participation in officially recognized activities and sports, weight and height (of members of athletic teams), and any degrees earned and awards received. Directory information may be released unless the student updates his/her privacy settings (under personal information) on Student Center. Students who wish to suppress their directory information from the electronic directory must perform this update within 10 days of the date of official university registration. Students may rescind their no-release request at any time by writing to the Office of the University Registrar or on Student Center.

3. The right to request the amendment of the student’s education record that the student believes is inaccurate.

Students may ask the office of the university registrar to amend a record that they believe is inaccurate. They should write the university official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate.
If the university decides not to amend the record as requested by the student, the university will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by Cornell University to comply with the requirements of FERPA. The name and address of the office that administers FERPA is:

   Family Policy Compliance Office
   U.S. Department of Education
   400 Maryland Avenue, SW
   Washington, DC 20202-5901

Unless otherwise indicated in writing by the student at the time of registration, or thereafter, the university will presume that a full-time undergraduate student is a dependent as that term is defined in the Internal Revenue Code. Undergraduate students who are not financially dependent and do not wish to permit their parents or legal guardian access to their education records should advise the Office of the University Registrar in writing and provide evidence of financial independence. Graduate and professional students are not assumed to be financially dependent upon their parents or legal guardian for these purposes.
Requirements for Nutritional Sciences majors
In the College of Human Ecology
2018-2019

- The requirements listed below pertain to all students matriculating in August 2018 and January 2019 (see also https://www.human.cornell.edu/academics/policies/degreeprogress/curriculumsheets).
- All of the following sections are required to be completed to graduate. Courses in areas 1-14 must be taken for a Letter Grade.

<table>
<thead>
<tr>
<th>Overall Credits (REQUIRED)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total: 120 credits</td>
</tr>
<tr>
<td>Human Ecology: 43 credits</td>
</tr>
<tr>
<td>Human Ecology, outside the major: 9 credits (from DEA, FSAD, HD, PAM any level, or HE at the 3000/4000 level)</td>
</tr>
</tbody>
</table>

1. **Introductory Chemistry** (8 credits)
   CHEM 2070 and CHEM 2080 General Chemistry I and II

2. **Introductory Biology** (8 credits)
   Choose one of the following labs:
   (a) BIOG 1500 Investigative Lab (F/S, 2 cr) OR
   (b) BIOSM 1500 Investigative Marine Biology Lab (Su, 3 cr)
   AND choose two out of the three lecture options
   (a) BIOMG 1350 Cell and Developmental Biology (F/S, 3 cr)
   (b) BIOG 1440 Comparative Physiology (F/S, 3 cr) OR*
       BIOG 1445 Comparative Physiology (autotutorial) (F/S, 4cr)
   (c) BIOEE 1610 Ecology and the Environment (F/S, 3cr) OR*
       BIOEE 1780 Evolution and Diversity (F/S, 3cr)
   * Cannot take both to fulfill this requirement.

3. **Organic Chemistry Lecture** (3-8 credits)*
   Choose one of the following:
   (a) CHEM 1570 Elementary Organic Chemistry (S only, 3 cr, not for pre-health) OR
   (b) CHEM 3530 Principles of Organic Chemistry (F only, 4 cr, not for pre-health) OR
   (c) CHEM 3570-3580 Introductory Organic Chemistry (F and S, 3 cr each, must take both, CHEM 3570 alone will not fulfill the requirement) OR
   (d) CHEM 3590-3600 Organic Chemistry (S and F, 4 cr each, must take both, CHEM 3590 alone will not fulfill the requirement)
   * Students interested in pre-health tracks should take a two-course sequence of organic chemistry lectures (option c or d above), in addition to an organic chemistry lab.

4. **Organic Chemistry Lab** (2-4 credits)
   (a) CHEM 2510 Introduction to Experimental Organic Chemistry (F/S/Summer, 2 cr) OR
   (b) CHEM 3010 Honors Experimental Chemistry (S, 4 cr)

5. **Physiology** (3-4 credits)
   Choose one of the following: *
   (a) NS 3410 Human Anatomy and Physiology (S, 4 cr) OR
   (b) BIOAP 3110 Animal Physiology (F, 3 cr)
   * Pre-health students should also consider taking NS 3420 Human Anatomy and Physiology Lab (S, 2 cr).

6. **Biochemistry** (4-6 credits)
   Choose one of the following:
   (a) NS 3200 Introduction to Human Biochemistry (F, 4 cr) OR
   (b) BIOMG 3300 Principles of Biochemistry (F/S, 4 cr) OR
   (c) BIOMG 3310 Principles of Biochemistry: Proteins and Metabolism (F, 3 cr) AND BIOMG 3320 Principles of Biochemistry: Molecular Biology (S, 2 cr) OR
   (d) BIOMG 3310 Principles of Biochemistry: Proteins and Metabolism (F, 3 cr) AND BIOMI 2900 General Microbiology (F/S, 3 cr) OR
   (e) BIOMG 3330 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (Summer, 4 cr) OR
   (f) BIOMG 3350 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (S, 4 cr)
7. Nutritional Sciences Core Courses  (16 credits)
   NS 1150 Nutrition, Health and Society (F, S and summer online, 3 cr)
   NS 2450 Social Science Perspectives on Food and Nutrition (F, 3 cr)
   NS 3450 Introduction to Physiochemical and Biological Aspects of Food (F, 3 cr)
   NS 3310 Nutrient Metabolism (S, 4 cr)
   NS 3320 Methods in Nutritional Sciences (F, 3 cr)

8. Advanced Electives in Nutrition  (9 credits)
   At least 9 credits of NS courses at the 3000 level or above (see below for NS courses at the 3000/4000 level organized by area of interest). Note: May include NS 3410 only if BIOAP 3110 is used to fulfill the physiology requirement.
   Note: May include no more than a total of 3 credits from NS 4000 Directed Readings, NS 4010 Empirical Research, 4020 Supervised Fieldwork, and NS 4990 Honors Research. May not include NS 3200, NS 3980, NS 4620, or NS 4030 Teaching Apprenticeship.

   Economic Influences on Human Nutrition
   NS 3060 Nutrition and Global Health (odd F, 3 cr)
   NS 4450 // AEM 4450 Toward a Sustainable Global Food System: Food Policy for Developing Countries (F, 3 cr)
   NS 4480 Economics of Food and Malnutrition (S, 3 cr)
   NS 4570 Health, Poverty, and Inequality: A Global Perspective (even F, 3 cr)

   Nutrition and Public Health
   NS 3600 Epidemiology (F, 3 cr)
   NS 4500 Public Health Nutrition (S, 3 cr)
   NS 4600 Explorations in Global Health (F, 3 cr)

   Food Quality and Food Service Management
   NS 4880 Applied Dietetics in Foodservice Systems (S, 4 cr)

   Human Health and Nutrition
   NS 3030 Nutrition, Health and Vegetarian Diets (S, 3 cr)
   NS 3150 // PSYCH 3150 Obesity and the Regulation of Body Weight (even S, 3 cr)
   NS 3220 Maternal and Child Nutrition (odd S, 3 cr; enrollment restricted – priority to Dietetics students)
   NS 3420 Human Anatomy and Physiology Laboratory (S, 2 cr)
   NS 4410 Nutrition and Disease (F, 4 cr)
   NS 4420 Implementation of Nutrition Care (F, 3 cr; enrollment restricted – priority to Dietetics students)
   NS 6140 Topics in Maternal and Child Nutrition (F, 3 cr)

   Nutritional Biochemistry
   NS 6310 Micronutrients: Function, Homeostasis and Assessment (F, 2-4 cr)
   NS 6320 Regulation of Macronutrient Metabolism (S, 4 cr)

   Psychological and Social Influences on Human Nutrition
   NS 4250 Nutrition Communications and Counseling (S, 3 cr)

9. First Year Writing Seminars  (6 credits)
   Note: The 2 required first year writing seminar courses must be completed during the first two semesters at Cornell.

10. Social Sciences  (6 credits)
    Choose one course in any two of the following four areas:

    Anthropology
    ANTHR 1400 The Comparison of Cultures (F, 3 cr)

    Economics
    ECON 1110 Introductory Microeconomics (F/S/Su/Wi, 3 cr)  *Counts for Human Ecology credit
    ECON 1120 Introductory Macroeconomics (F/S/Su/Wi, 3 cr)  *Does not count for Human Ecology credit

    Psychology
    HD 1150 Human Development: Infancy and Childhood (F, 3 cr)
    HD 1170 Adolescence and Emerging Adulthood (S, 3 cr)
    PSYCH 1101 Introduction to Psychology (F/Su, 3 cr)

    Sociology
    DSOC 1101 Introduction to Sociology (F/S, 3 cr)
    SOC 1101 Introduction to Sociology (F/S/Su, 3 cr)
11. **Humanities** (3-4 credits)
   Choose any course with the Course Distribution HA, LA, or CA.

12. **Calculus/Advanced Math** (3-4 credits)
   Choose one of the following:
   (a) **MATH 1105** Finite Mathematics for the Life and Social Sciences (F, 3 cr)
   (b) **MATH 1106** Calculus for the Life and Social Sciences (S, 3 cr)
   (c) **MATH 1110** Calculus I (F/S/Sum, 4 cr)
   (d) **MATH 1120** Calculus II (F/S, 4 cr)
   (e) A score of 4 or higher on the AB or BC Calculus AP Exam *
   
   * See below under Statistics.

13. **Statistics** (3-4 credits)
   Choose one of the following:
   (a) **STSCI 2150** Introductory Statistics for Biology (F/S, 4 cr) *(recommended)* OR
   (b) **PAM 2100** Introduction to Statistics (S, 4 cr) OR
   (c) **AEM 2100** Introductory Statistics (F, 4 cr) OR
   (d) **BTRY 3010** Biological Statistics I (F, 4 cr) OR
   (e) **ILRST/STSCI 2100** Introductory Statistics (F/S/Winter/Summer, 4 cr) OR
   (f) **MATH 1710** Statistical Theory and Application in the Real World (F/S, 4 cr) OR
   (g) **PSYCH 2500** Statistics and Research Design (F/Summer, 3-4 cr) OR
   (h) **SOC 3010** Statistics for Sociological Research (F, 4 cr)
   (i) A score of 4 or 5 on the Statistics AP Exam *
   
   * CHE students must take either Calculus/Advanced Math or Statistics at Cornell unless they have earned a score of 4 or 5 on the BC Calculus AP Exam. Students in this case may use AP credit for both Calculus/Advanced Math and Statistics.

14. **Electives** (Variable)
   Any courses that are not taken in Areas 1-14 above, count as Electives. Students interested in pre-health tracks or graduate study in biological, medical, or exercise sciences should take a two-course series in physics [**PHYS 1101 AND 1102** General Physics *(auto-tutorial)*] OR [**PHYS 2207 AND 2208** Fundamentals of Physics].

15. **Physical Education Requirement** (2 courses)
   Physical Education must be completed in order to graduate. However, physical education does not count toward college and university minimum credit requirements for full-time status, nor does it count towards the 120 credits required for graduation.

16. **Swim Test Requirement**
   A successful swim test must be completed in order to graduate.

**College Policies:**

- **120 Overall Credits**
  - Students must complete 120 credits toward graduation.
  - A maximum of 15 credits of AP credit and in absentia credit can count towards the 120 total credits.
  - 15 credits of Study Abroad/Exchange, Cornell-In-Washington, or Capital semester can count towards total electives.
  - A course can only count towards the 120 total credits required once.
  - Students who exceed the above parameters—i.e., by taking more than 15 credits in cases (a), (b), and (c), or taking a course more than once—will have their total required credits increase by the same amount, and all credits will be counted toward their GPA. For example, a student who takes a 3-credit course twice to improve their grade will then be required to complete 123 total credits, and will have both grades factored into their GPA.

- **43 HE Credits**
  - Students must complete a minimum of 43 HE credits.
  - HE non-departmental courses at the 2000-level and below do not count toward the 43 HE credits.
  - Students must complete 5 HE credits by the end of the freshmen year and 12 HE credits by the end of the sophomore year.

- **9 HE Credits outside the major**
  - Students must complete a minimum of 9 HE credits outside of NS. These credits are given for any Human Ecology course outside your major (except 4030). These can be taken S/U only if course is NOT used to fulfill a curriculum requirement.

- **Pass/Fail Courses [S/U]**
  - S/U grading option may NOT be used for any required course [Areas 1-14] unless it is the only grade option offered for those courses.
  - S/Us MAY be used for the 9 HE Credits outside the major and for electives in Area 15.
o Students may apply no more than 12 credits of S/U towards graduation requirements. If a required course is only offered S/U, it will not count towards this limit. Students may take more S/Us if they choose, but the additional credit will not be applied towards graduation.

o The **deadline for changing grade options is the 57th calendar day of the semester**, the same as the “drop” deadline.

- **Special Study Courses [4000, 4010, 4020, 4030]**
  - A maximum of 12 credits of special study course work from Human Ecology or other colleges will count towards the 120 overall credits (e.g. DNS special studies course work includes NS 4000, 4010, 4020, and 4030). Courses will be indicated on the class roster with a Component of either IND or RSC. [Additional credits can be taken but will not be applied.]
  
- A maximum of 12 credits of 4000-4030 may count toward the 43 HE credit requirement.

- A maximum of 3 credits of 4000-4020 (not including 4030) may count towards the 9 credits outside the major requirement as long as the special study is in a department outside the student’s major.

- Students cannot TA (4030) the same course for credit more than once or take and TA the same course simultaneously. 4030 does not fulfill any requirements towards the major. Registration for 4030 may not exceed 5 credit hours per semester.

- Students who wish to take NS Special Studies Courses must have taken and passed at least 2 S/U credits of the **same course**.
Requirements for Nutritional Sciences majors

In the College of Agriculture and Life Sciences 2018-2019

- The requirements listed below pertain to all students matriculating in August 2018 and January 2019 (see also https://cals.cornell.edu/academics/registrar/degree-requirements/ for a detailed description of CALS distribution requirements).
- All of the following sections are required to be completed to graduate. Courses in areas 1-14 must be taken for a Letter Grade.

<table>
<thead>
<tr>
<th>Overall Credits (REQUIRED)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total: 120 credits</td>
</tr>
<tr>
<td>CALS: 55 credits</td>
</tr>
<tr>
<td>CALS, outside the major: 9 credits</td>
</tr>
</tbody>
</table>

1. **Introductory Chemistry** (8 credits)
   - CHEM 2070 and CHEM 2080 General Chemistry I and II

2. **Introductory Biology** (8 credits)
   - Choose one of the following labs:
     - (a) BIOG 1500 Investigative Lab (F/S, 2 cr) OR
     - (b) BIOSM 1500 Investigative Marine Biology Lab (Su, 3 cr)
   - AND choose two out of the three lecture options
     - (a) BIOMG 1350 Cell and Developmental Biology (F/S, 3 cr)
     - (b) BIOG 1440 Comparative Physiology (F/S, 3 cr) OR*
       - BIOG 1445 Comparative Physiology (autotutorial) (F/S, 4cr)
     - (c) BIOEE 1610 Ecology and the Environment (F/S, 3cr) OR*
       - BIOEE 1780 Evolution and Diversity (F/S, 3cr)
   * Cannot take both to fulfill this requirement.

3. **Organic Chemistry Lecture** (3-8 credits)*
   - Choose one of the following:
     - (a) CHEM 1570 Elementary Organic Chemistry (S only, 3 cr, not for pre-health) OR
     - (b) CHEM 3530 Principles of Organic Chemistry (F only, 4 cr, not for pre-health) OR
     - (c) CHEM 3570-3580 Introductory Organic Chemistry (F and S, 3 cr each, must take both, CHEM 3570 alone will not fulfill the requirement) OR
     - (d) CHEM 3590-3600 Organic Chemistry (S and F, 4 cr each, must take both, CHEM 3590 alone will not fulfill the requirement)
   * Students interested in pre-health tracks should take a two-course sequence of organic chemistry lectures (option c or d above), in addition to an organic chemistry lab.

4. **Organic Chemistry Lab** (2-4 credits)
   - (a) CHEM 2510 Introduction to Experimental Organic Chemistry (F/S/Summer, 2 cr) OR
   - (b) CHEM 3010 Honors Experimental Chemistry (S, 4 cr)

5. **Physiology** (3-4 credits)
   - Choose one of the following:
     - (a) NS 3410 Human Anatomy and Physiology (S, 4 cr) OR
     - (b) BIOAP 3110 Animal Physiology (F, 3 cr)
   * Pre-health students should also consider taking NS 3420 Human Anatomy and Physiology Lab (S, 2 cr).

6. **Biochemistry** (4-6 credits)
   - Choose one of the following:
     - (a) NS 3200 Introduction to Human Biochemistry (F, 4 cr) OR
     - (b) BIOMG 3300 Principles of Biochemistry (F/S, 4 cr) OR
     - (c) BIOMG 3310 Principles of Biochemistry: Proteins and Metabolism (F, 3 cr) AND BIOMG 3320 Principles of Biochemistry: Molecular Biology (S, 2 cr) OR
     - (d) BIOMG 3310 Principles of Biochemistry: Proteins and Metabolism (F, 3 cr) AND BIOMI 2900 General Microbiology (F/S, 3 cr) OR
     - (e) BIOMG 3330 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (Summer, 4 cr) OR
     - (f) BIOMG 3350 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (S, 4 cr)
7. **Nutritional Sciences Core Courses**  **(16 credits)**  
   - **NS 1150** Nutrition, Health and Society (F, S, and Summer online, 3 cr)  
   - **NS 2450** Social Science Perspectives on Food and Nutrition (F, 3 cr)  
   - **NS 3450** Introduction to Physiochemical and Biological Aspects of Food (F, 3 cr)  
   - **NS 3310** Nutrient Metabolism (S, 4 cr)  
   - **NS 3320** Methods in Nutritional Sciences (F, 3 cr)  

8. **Advanced Electives in Nutrition**  **(9 credits)**  
   At least 9 credits of NS courses at the 3000 level or above (see below for NS courses at the 3000/4000 level organized by area of interest). **Note:** May include NS 3410 only if BIOAP 3110 is used to fulfill the physiology requirement.  
   **Note:** May include no more than a total of 3 credits from NS 4000 Directed Readings, NS 4010 Empirical Research, 4020 Supervised Fieldwork, and NS 4990 Honors Research. May not include NS 3200, NS 3980, NS 4620, or NS 4030 Teaching Apprenticeship.  

   **Economic Influences on Human Nutrition**  
   - **NS 3060** Nutrition and Global Health (odd F, 3 cr)  
   - **NS 4450** / **AEM 4450** Toward a Sustainable Global Food System: Food Policy for Developing Countries (F, 3 cr)  
   - **NS 4480** Economics of Food and Malnutrition (S, 3 cr)  
   - **NS 4570** Health, Poverty, and Inequality: A Global Perspective (even F, 3 cr)  

   **Nutrition and Public Health**  
   - **NS 3600** Epidemiology (F, 3 cr)  
   - **NS 4500** Public Health Nutrition (S, 3 cr)  
   - **NS 4600** Explorations in Global Health (F, 3 cr)  

   **Food Quality and Food Service Management**  
   - **NS 4880** Applied Dietetics in Foodservice Systems (S, 4 cr)  

   **Human Health and Nutrition**  
   - **NS 3030** Nutrition, Health and Vegetarian Diets (S, 3 cr)  
   - **NS 3150** / **PSYCH 3150** Obesity and the Regulation of Body Weight (odd S, 3 cr)  
   - **NS 3220** Maternal and Child Nutrition (odd S, 3 cr; enrollment restricted – priority to Dietetics students)  
   - **NS 3420** Human Anatomy and Physiology Laboratory (S, 2 cr)  
   - **NS 4410** Nutrition and Disease (F, 4 cr)  
   - **NS 4420** Implementation of Nutrition Care (F, 3 cr; enrollment restricted – priority to Dietetics students)  
   - **NS 6140** Topics in Maternal and Child Nutrition (F, 3 cr)  

   **Nutritional Biochemistry**  
   - **NS 6310** Micronutrients: Function, Homeostasis and Assessment (F, 2-4 cr)  
   - **NS 6320** Regulation of Macronutrient Metabolism (S, 4 cr)  

   **Psychological and Social Influences on Human Nutrition**  
   - **NS 4250** Nutrition Communications and Counseling (S, 3 cr)  

9. **Communications**  **(9 credits)**  
   Complete 9 credits of courses in written and oral expression. At least 6 credits must be written expression. Select courses from First-year Writing Seminars and COMM or ENGL classes as per CALS distribution requirements. **Note:** Potential courses to fulfill this and any CALS distribution requirement may be found in “DUST.”  

10. **Social Sciences and Humanities**  **(6 credits)**  
    Complete 12 credits, including four courses of at least 3 cr each:  
    - The four chosen courses must include at least 3 different categories from the following list: Cultural Analysis (CA), Human Diversity (D), Foreign Language (FL), Historical Analysis (HA), Knowledge, Cognition, and Moral Reasoning (KCM), Literature and the Arts (LA), and Social and Behavioral Analysis (SBA).  
    - At least one course must be in Human Diversity (D).  

11. **Calculus/Advanced Math**  **(3-4 credits)**  
    Choose one of the following:  
    (a) **MATH 1105** Finite Mathematics for the Life and Social Sciences (F, 3 cr)  
    (b) **MATH 1106** Calculus for the Life and Social Sciences (S, 3 cr)  
    (c) **MATH 1110** Calculus I (F/S/Sum, 4 cr)  
    (d) **MATH 1120** Calculus II (F/S, 4 cr)  
    (e) A score of **4 or higher** on the AB or BC Calculus AP Exam  

    *CALS students who earned a 4 or 5 on the AB Calculus AP Exam and complete MATH 1106, 1110, or equivalent forfeit their AP credit. CALS students who earned a 4 or 5 on the BC Calculus AP Exam and take MATH 1106, 1110, 1120, 1220, 1910, or equivalent forfeit their AP credit.  

    ^ See below under Statistics.
12. **Statistics (3-4 credits)**

Choose one of the following:

(a) STSCI 2150 Introductory Statistics for Biology (F/S, 4 cr) *(recommended)* OR
(b) PAM 2100 Introduction to Statistics (S, 4 cr) OR
(c) AEM 2100 Introductory Statistics (F, 4 cr) OR
(d) BTRY 3010 Biological Statistics I (F, 4 cr) OR
(e) ILRST/STSCI 2100 Introductory Statistics (F/S/Winter/Summer, 4 cr) OR
(f) MATH 1710 Statistical Theory and Application in the Real World (F/S, 4 cr) OR
(g) PSYCH 2
(h) 500 Statistics and Research Design (F/Summer, 3-4 cr) OR
(i) SOC 3010 Statistics for Sociological Research (F, 4 cr)
(j) A score of 4 or 5 on the Statistics AP Exam*

* CALS students who earned a 5 on the Statistics AP Exam and complete AEM 2100, BTRY 3010, HADM 2010, ENGRD 2700, PAM 2100, ILRST/STSCI 2100, STSCI 2150, SOC 3010, MATH 1710, or equivalent forfeit their AP credit.

^ NS-CALS students must take either Calculus/Advanced Math or Statistics at Cornell unless they have earned a score of 3 or higher on the BC Calculus AP Exam. Students in this case may use AP credit for both Calculus/Advanced Math and Statistics.

13. **Electives (Variable)**

Any courses that are not taken in Areas 1-14 above, count as Electives. Students interested in pre-health tracks or graduate study in biological, medical, or exercise sciences should take a two-course series in physics [PHYS 1101 AND 1102 General Physics *(auto-tutorial)*] OR [PHYS 2207 AND 2208 Fundamentals of Physics].

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

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

15. **Swim Test Requirement**

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

**College Policies:**

- **120 Overall Credits**
  - Students must complete 120 credits toward graduation.
  - A maximum of 15 credits of AP credit and in absentia credit can count towards the 120 total credits.
  - 15 credits of Study Abroad/Exchange, Cornell-In-Washington, or Capital semester can count towards total electives.
  - A course can only count towards the 120 total credits required once.
  - Students who exceed the above parameters—i.e., by taking more than 15 credits in cases (a), (b), and (c), or taking a course more than once—will have their total required credits increase by the same amount, and all credits will be counted toward their GPA. For example, a student who takes a 3-credit course twice to improve their grade will then be required to complete 123 total credits, and will have both grades factored into their GPA.

- **55 CALS Credits**
  - Students must complete a minimum of 55 CALS credits.

- **9 CALS Credits outside the major**
  - Students must complete a minimum of 9 CALS credits outside of NS. These credits are given for any CALS course other than NS courses or those cross-listed with NS courses. These can be taken S/U only if the course is NOT used to fulfill a curriculum requirement.

- **Pass/Fail Courses [S/U]**
  - S/U grading option may NOT be used for any required course [Areas 1-14] unless it is the only grade option offered.
  - S/Us MAY be used for the 9 HE Credits outside the major and for electives in Area 15.
  - Students may apply no more than 12 credits of S/U towards graduation requirements. If a required course is only offered S/U, it will not count towards this limit. Students may take more S/Us if they choose, but the additional credit will not be applied towards graduation.
  - The **deadline for changing grade options is the 57th calendar day of the semester**, the same as the “drop” deadline.

- **Special Study Courses [4000, 4010, 4020, 4030]**
  - A maximum of 12 credits of special study course work from Human Ecology or other colleges will count towards the 120 overall credits (e.g. DNS special studies course work includes NS 4000, 4010, 4020, and 4030). Courses will be indicated on the class roster with a Component of either IND or RSC. [Additional credits can be taken but will not be applied.]
  - A maximum of 12 credits of 4000-4030 may count toward the 43 HE credit requirement.
A maximum of 3 credits of 4000-4020 (not including 4030) may count towards the 9 credits outside the major requirement as long as the special study is in a department outside the student's major.

Students cannot TA (4030) the same course for credit more than once or take and TA the same course simultaneously. 4030 does not fulfill any requirements towards the major. Registration for 4030 may not exceed 5 credit hours per semester.

Students who wish to take NS Special Studies Courses must have taken and passed at least 2 S/U credits of the same course.
Sample Schedules for Nutritional Sciences Majors (CHE or CALS)

1. Sample schedules are meant only as a guide, representing one example of many ways to complete the NS major, and are not an adequate substitute for meeting with faculty advisor(s). Most major and college requirements can be met with multiple options that should be considered in light of an individual student’s College, interests, professional goals, and other schedule constraints.

2. Students must complete an overall average of 15 credits per semester to graduate with the required 120. As a result, the courses listed in each semester do not necessarily represent the student’s actual full semester load—particularly in later semesters, as the variability in students’ remaining requirements and electives increases.

**“BASELINE” SCHEDULE**
(i.e., not pre-health or dietetics, no plans to study abroad)

### FRESHMAN YEAR

#### FALL

1. NS 1150 Nutrition and Health (3 cr)
2. NS 1160 Personalized Concepts and Controversies (1 cr)
3. CHEM 2070 Introductory Chemistry I (4 cr)
4. CHEM 1007 Academic Support for CHEM 2070 (1 cr)
5. Introductory biology lecture [e.g. BIOMG 1350, BIOG 1440, or BIOEE 1610 or 1780] (3 cr)
6. Freshman Writing Seminar (required fall of freshman year)

#### SPRING

1. NS 1200 Nutrition and Health: Issues, Outlooks and Opportunities (1 cr)
2. CHEM 2080 Introductory Chemistry II (4 cr)
3. CHEM 1008 Academic Support for CHEM 2080 (1 cr)
4. BIOG 1500 Investigative Lab (2 cr) OR Introductory biology lecture [e.g. BIOMG 1350, BIOG 1445, or BIOEE 1610 or 1780] (3 cr)
5. Freshman Writing Seminar (required spring of freshman year)
6. Humanities & Social Sciences course (see College-level specifications)

### SOPHOMORE YEAR

#### FALL

1. NS 2450 Social Science Perspectives on Food and Nutrition (3 cr)
2. BIOG 1500 Investigative Lab (2 cr) OR Introductory biology lecture [e.g. BIOMG 1350 or BIOG 1445] (3 cr)
3. CHEM 3530 Principles of Organic Chemistry (4 cr)
4. MATH 1105 Finite Mathematics for the Life and Social Sciences (3 cr)
5. Humanities & Social Sciences course (see College-level specifications)

#### SPRING

1. NS 1220 Nutrition and the Life Cycle (3 cr)
2. CHEM 2510 Introduction to Experimental Organic Chemistry (2 cr)
3. Written/oral expression course (if CALS) OR other College distribution requirement
4. Humanities & Social Sciences course (see College-level specifications)

### JUNIOR YEAR

#### FALL

1. NS 3200 Biochemistry (4 cr) OR BIOMG 3300 Principles of Biochemistry (4 cr)
2. NS 3450 Introduction to Physicochemical and Biological Aspects of Food (3 cr)
3. Advanced NS elective [e.g. NS 3600 or 4450, or research credits]

***plus remaining College (CALS/CHE) or general elective credits, according to needs and interests***

#### SPRING

1. NS 3310 Nutrient Metabolism (4 cr)
2. NS 3410 Anatomy and Physiology (4 cr)
3. Advanced NS elective [e.g. NS 3420, 4480, or research credits]
4. Humanities & Social Sciences course (see College-level specifications)

***plus remaining College (CALS/CHE) or general elective credits, according to needs and interests***

### SENIOR YEAR

#### FALL

1. NS 3320 Methods in Nutritional Sciences (3 cr)
2. Advanced NS elective [e.g. NS 4410 or 4450 or research credits]
3. STSCI 2150 Introductory Statistics for Biology (4 cr)

***plus remaining College (CALS/CHE) or general elective credits, according to needs and interests***

#### SPRING

1. Remaining advanced NS elective credits [e.g. NS 3030, 3320, 4480, or 4500, or research credits]

***plus remaining College (CALS/CHE) or general elective credits, according to needs and interests***
PRE-HEALTH (or possibility of pre-health)
(not dietetics, no plans to study abroad)

*** It is very important that students pursuing or considering a pre-health track speak with a pre-health advisor either within their College or through University Career Services. See The Pre-Health Track as a DNS Undergraduate for more information. ***

**FRESHMAN YEAR**

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) NS 1150 Nutrition, Health, and Society (3 cr)</td>
<td>1) NS 1200 Nutrition and Health: Issues, Outlooks and Opportunities (1 cr)</td>
</tr>
<tr>
<td>2) NS 1160 Personalized Concepts and Controversies (1 cr)</td>
<td>2) CHEM 2080 Introductory Chemistry II (4 cr)</td>
</tr>
<tr>
<td>3) CHEM 2070 Introductory Chemistry I (4 cr)</td>
<td>3) CHEM 1008 Academic Support for CHEM 2080 (1 cr)</td>
</tr>
<tr>
<td>4) CHEM 1007 Academic Support for CHEM 2070 (1 cr)</td>
<td>4) BIOG 1500 Investigative Lab (2 cr)</td>
</tr>
<tr>
<td>5) BIOG 1440 Introductory Biology: Comparative Physiology (3 cr)</td>
<td>5) BIOMG 1350 Introductory Biology: Cell and Developmental Biology (3 cr)</td>
</tr>
<tr>
<td>6) Freshman Writing Seminar (3 cr, <strong>required fall of freshman year</strong>)</td>
<td>6) Freshman Writing Seminar (<strong>required spring of freshman year</strong>) (3 cr)</td>
</tr>
<tr>
<td>7) Humanities &amp; Social Sciences course  (<strong>see College-level specifications; psychology or sociology recommended for pre-health</strong>)</td>
<td>7) Humanities &amp; Social Sciences course  (<strong>see College-level specifications</strong>)</td>
</tr>
</tbody>
</table>

**SOPHOMORE YEAR**

<table>
<thead>
<tr>
<th>FALL</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1) NS 2450 Social Science Perspectives on Food and Nutrition (3 cr)</td>
<td>1) NS 1220 Nutrition and the Life Cycle (3 cr)</td>
</tr>
<tr>
<td>2) NS 3450 Introduction to Physicochemical and Biological Aspects of Food (3 cr)</td>
<td>2) CHEM 3580 Organic Chemistry for the Life Sciences II (4 cr)</td>
</tr>
<tr>
<td>3) CHEM 3570 Organic Chemistry for the Life Sciences I (4 cr)</td>
<td>3) CHEM 2510 Introduction to Experimental Organic Chemistry (2 cr)</td>
</tr>
<tr>
<td>4) Humanities &amp; Social Sciences course  (<strong>see College-level specifications</strong>)</td>
<td>4) Biology elective [e.g. BIOMI 2900 General Microbiology Lectures (3-4 cr)]</td>
</tr>
<tr>
<td></td>
<td>5) Written/oral expression course (if CALS) <strong>OR</strong> Humanities &amp; Social Sciences course, if needed (<strong>see College-level specifications</strong>)</td>
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</table>

**JUNIOR YEAR**

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
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</thead>
<tbody>
<tr>
<td>1) NS 3200 Biochemistry (4 cr) <strong>OR</strong> BIOMG 3300 Principles of Biochemistry (4 cr)</td>
<td>1) NS 3310 Nutrient Metabolism (4 cr)</td>
</tr>
<tr>
<td>2) Biology elective [e.g. BIOMG 2800 Lectures in Genetics and Genomics, <strong>recommended for pre-health</strong> (3 cr)]</td>
<td>2) NS 3410 Anatomy and Physiology (4 cr)</td>
</tr>
<tr>
<td>3) PHYS 1101 Fundamentals of Physics I (4 cr)</td>
<td>3) NS 3420 Anatomy and Physiology Lab (2 cr)</td>
</tr>
<tr>
<td>4) MATH 1110 Calculus I (4 cr)</td>
<td>4) Advanced NS elective [e.g. NS 4480 or research credits]</td>
</tr>
<tr>
<td>5) Additional biology elective, if desired, according to interests</td>
<td>5) PHYS 1102 Fundamentals of Physics II (4 cr)</td>
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</tbody>
</table>

**SENIOR YEAR**

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) NS 3320 Methods in Nutritional Sciences (3 cr)</td>
<td>1) Advanced NS elective [e.g. NS 3220, 4480, or 4500, or research credits]</td>
</tr>
<tr>
<td>2) STSCI 2150 Introductory Statistics for Biology (4 cr)</td>
<td>**<em><strong>plus remaining College (CALS/ CHE) or general elective credits, according to needs and interests</strong></em></td>
</tr>
<tr>
<td>3) Advanced NS elective [e.g. NS 4410 or 4450, or research credits]</td>
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</tr>
</tbody>
</table>

***plus remaining College (CALS/ CHE) or general elective credits, according to needs and interests***
**within-year STUDY ABROAD**  
(not pre-health or dietetics)

**NOTE:** Students interested in spending a semester away from Cornell should meet with a Study Abroad advisor within their College as well as formulate a course plan for graduation as soon as possible. Students who spend a semester away from Cornell need to take 2-3 more credits per semester on average than students spending 8 semesters at Cornell to credit requirements for graduation.

### FRESHMAN YEAR

#### FALL
1) NS 1150 Nutrition and Health (3 cr)  
2) NS 1160 Personalized Concepts and Controversies (1 cr)  
3) CHEM 2070 Introductory Chemistry I (4 cr)  
4) CHEM 1007 Academic Support for CHEM 2070 (1 cr)  
5) Introductory biology lecture [e.g. BIOMG 1350, BIOG 1440, or BIOEE 1610 or 1780] (3 cr)  
6) Freshman Writing Seminar (required fall of freshman year)

#### SPRING
1) NS 1200 Nutrition and Health: Issues, Outlooks and Opportunities (1 cr)  
2) CHEM 2080 Introductory Chemistry II (4 cr)  
3) CHEM 1008 Academic Support for CHEM 2080 (1 cr)  
4) BIOG 1500 Investigative Lab (2 cr) OR introductory biology lecture [e.g. BIOMG 1350, BIOG 1445, or BIOEE 1610 or 1780] (3 cr)  
5) Freshman Writing Seminar (required spring of freshman year)  
6) Humanities & Social Sciences course (see College-level specifications)

### SOPHOMORE YEAR

#### FALL
1) NS 2450 Social Science Perspectives on Food and Nutrition (3 cr)  
2) BIOG 1500 Investigative Lab (2 cr) OR Introductory biology lecture [e.g. BIOMG 1350 or BIOG 1445] (3 cr)  
3) CHEM 3530 Principles of Organic Chemistry (3 cr)  
4) MATH 1105 Finite Mathematics for the Life and Social Sciences (3 cr)  
5) Humanities & Social Sciences course (see College-level specifications)

#### SPRING
1) NS 1220 Nutrition and the Life Cycle (3 cr)  
2) CHEM 2510 Introduction to Experimental Organic Chemistry (2 cr)  
3) STSCI 2150 Introductory Statistics for Biology (3 cr)  
4) Written/oral expression course (if CALS) OR other College elective  
5) Humanities & Social Sciences course (see College-level specifications)

### JUNIOR YEAR

#### FALL
1) NS 3310 Nutrient Metabolism (4 cr)  
2) NS 3410 Anatomy and Physiology (4 cr)  
3) Advanced NS elective [e.g. NS 3420, 4480, or research credits]  
4) BIOMG 3300 Principles of Biochemistry (4 cr)  
5) Humanities & Social Sciences course (see College-level specifications)

#### SPRING
1) NS 3320 Methods in Nutritional Sciences (3 cr)  
2) Advanced NS elective (e.g. NS 3600, 4410, or 4450, or research credits)  
3) Advanced NS elective  

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**ELO // STUDY ABROAD SEMESTER**

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### SENIOR YEAR

#### FALL
1) Remaining NS elective credits, if needed [e.g. NS 3220, 4480, or 4500, or research credits]  

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**plus remaining College (CALS/CHE) or general elective credits, according to needs and interests***

#### SPRING
1) Remaining NS elective credits, if needed [e.g. NS 3220, 4480, or 4500, or research credits]  

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**plus remaining College (CALS/CHE) or general elective credits, according to needs and interests***
**DIETETICS**
(not pre-health, no plans to study abroad)

***It is very important that students speak with Dr. Pam Shapiro to be sure to meet all dietetics requirements on time and in the right sequence. See The Didactic Program in Dietetics for more information.***

### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>FALL</th>
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<tbody>
<tr>
<td>1) NS 1150 Nutrition and Health (3 cr)</td>
<td>1) NS 1220 Nutrition and the Life Cycle (3 cr)</td>
</tr>
<tr>
<td>2) NS 1160 Personalized Concepts and Controversies (1 cr)</td>
<td>2) CHEM 2080 Introductory Chemistry II (4 cr)</td>
</tr>
<tr>
<td>3) CHEM 2070 Introductory Chemistry I (4 cr)</td>
<td>3) CHEM 1008 Academic Support for CHEM 2080 (1 cr)</td>
</tr>
<tr>
<td>4) CHEM 1007 Academic Support for CHEM 2070 (1 cr)</td>
<td>4) BIOG 1500 Investigative Lab (2 cr) OR introductory biology lecture [e.g. BIOMG 1350, BIOG 1445, or BIOEE 1610 or 1780] (3 cr)</td>
</tr>
<tr>
<td>5) Introductory biology lecture [e.g. BIOMG 1350, BIOG 1440, or BIOEE 1610 or 1780] (3 cr)</td>
<td>5) Freshman Writing Seminar (required spring of freshman year)</td>
</tr>
<tr>
<td>6) Freshman Writing Seminar (required fall of freshman year)</td>
<td>6) Humanities &amp; Social Sciences course (see College-level specifications)</td>
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### SOPHOMORE YEAR

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) NS 2470 Food for Contemporary Living (2 cr) (if still needed)</td>
<td>1) CHEM 1570 Introduction to Organic and Biological Chemistry (3 cr; if CHEM 3530 not taken)</td>
</tr>
<tr>
<td>2) NS 2450 Social Science Perspectives on Food and Nutrition (3 cr)</td>
<td>2) CHEM 2510 Introduction to Experimental Organic Chemistry (2 cr)</td>
</tr>
<tr>
<td>3) CHEM 3530 Principles of Organic Chemistry (4 cr) (OR CHEM 1570 in Spring)</td>
<td>3) NS 3410 Anatomy and Physiology (4 cr)</td>
</tr>
<tr>
<td>4) Introductory biology lecture [e.g. BIOMG 1350, BIOG 1440 or 1445, or BIOEE 1780] (3 cr)</td>
<td>4) NS 3420 Anatomy and Physiology Lab (2 cr)</td>
</tr>
<tr>
<td>5) Psychology [PSYCH 1101 Introduction to Psychology OR HD 1150 Human Development] (3 cr)</td>
<td>5) Humanities &amp; Social Sciences course (see College-level specifications)</td>
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<tr>
<td>6) Statistics</td>
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### JUNIOR YEAR

<table>
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<tr>
<th>FALL</th>
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<tbody>
<tr>
<td>1) NS 3200 Biochemistry (4 cr) OR BIOMG 3300 Principles of Biochemistry (4 cr) OR BIOMG 3310 Principles of Biochemistry: Proteins and Metabolism (3 cr)</td>
<td>1) NS 3310 Nutrient Metabolism (4 cr)</td>
</tr>
<tr>
<td>2) NS 3450 Introduction to Physiochemical and Biological Aspects of Foods (3 cr)</td>
<td>2) NS 4500 Public Health Nutrition (3 cr) (OR NS 1600 in fall)</td>
</tr>
<tr>
<td>3) MATH 1110 Calculus I (4 cr)</td>
<td>3) Written/oral expression course (if CALS) OR College (CALS/CHE) elective</td>
</tr>
<tr>
<td>4) HADM 3365 Food Service Management Essentials (3 cr)</td>
<td>4) Humanities &amp; Social Sciences course (see College-level specifications)</td>
</tr>
<tr>
<td>5) BIOMI 2900 General Microbiology Lectures (3-4 cr)</td>
<td><em><strong>plus remaining College (CALS/CHE) or general elective credits, according to needs and interests</strong></em></td>
</tr>
<tr>
<td>6) Humanities &amp; Social Sciences course (see College-level specifications)</td>
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### SENIOR YEAR

<table>
<thead>
<tr>
<th>FALL</th>
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</thead>
<tbody>
<tr>
<td>1) NS 3320 Methods in Nutritional Science (3 cr)</td>
<td>1) NS 4250 Nutrition Communications and Counseling (3 cr)</td>
</tr>
<tr>
<td>2) NS 4410 Nutrition and Disease (4 cr)</td>
<td>2) NS 4880 Applied Dietetics in Food Service Systems (4 cr)</td>
</tr>
<tr>
<td>3) NS 4420 Implementation of Nutrition Care (3 cr)</td>
<td>3) NS 4500, if neither that nor NS 1600 taken yet (3 cr)</td>
</tr>
<tr>
<td>4) NS 1600 Intro to Public Health (3 cr) (if NS 4500 not taken)</td>
<td><em><strong>plus remaining College (CALS/CHE) or general elective credits, according to needs and interests</strong></em></td>
</tr>
<tr>
<td>5) BIOMI 2900 General Microbiology Lectures (3-4 cr) (if still needed)</td>
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</tr>
</tbody>
</table>

***plus remaining College (CALS/CHE) or general elective credits, according to needs and interests***

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36
Requirements for Human Biology, Health, and Society majors

In the College of Human Ecology

2018-2019

The requirements listed below pertain to all students matriculating in August 2018 and January 2019 (see also https://www.human.cornell.edu/academics/policies/degreeprogress/curriculumsheets).

All of the following sections are required to be completed to graduate. Courses in areas 1-17 must be taken for a Letter Grade.

<table>
<thead>
<tr>
<th>Overall Credits (REQUIRED)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total: 120 credits</td>
</tr>
<tr>
<td>Human Ecology: 43 credits</td>
</tr>
<tr>
<td>Human Ecology, outside the major: 9 credits (from DEA, FSAD, HD, PAM any level, or HE at the 3000/4000 level)</td>
</tr>
</tbody>
</table>

1. **Introductory Chemistry** (8 credits)
   - CHEM 2070 and CHEM 2080 General Chemistry I and II

2. **Introductory Biology** (8 credits)
   - Choose one of the following labs:
     - BIOG 1500 Investigative Lab (F/S, 2 cr) OR
     - BIOSM 1500 Investigative Marine Biology Lab (Su, 3 cr)
   - AND choose two out of the three lecture options
     - BIOMG 1350 Cell and Developmental Biology (F/S, 3 cr)
     - BIOG 1440 Comparative Physiology (F/S, 3 cr) OR
       - BIOG 1445 Comparative Physiology (autotutorial) (F/S, 4cr)
     - (c) BIOEE 1610 Ecology and the Environment (F/S, 3 cr) OR
       - BIOEE 1780 Evolution and Diversity (F/S, 3cr)
   * Cannot take both to fulfill this requirement.

3. **Physics** (4 credits)*
   - PHYS 1101 General Physics I (F/Summer, 4 cr) OR
   - PHYS 2207 Fundamentals of Physics (F, 4 cr)
   * Pre-health students should also take PHYS 1102 General Physics II OR PHYS 2208 Fundamentals of Physics.

4. **Organic Chemistry Lecture** (3-8 credits)*
   - Choose one of the following:
     - CHEM 1570 Elementary Organic Chemistry (S only, 3 cr, not for pre-health) OR
     - CHEM 3530 Principles of Organic Chemistry (F only, 4 cr, not for pre-health) OR
     - CHEM 3570-3580 Introductory Organic Chemistry (F and S, 3 cr each, must take both, CHEM 3570 alone will not fulfill the requirement) OR
     - CHEM 3590-3600 Organic Chemistry (S and F, 4 cr each, must take both, CHEM 3590 alone will not fulfill the requirement)
   * Students interested in pre-health tracks should take a two-course sequence of organic chemistry lectures (option c or d above), in addition to an organic chemistry lab.

5. **Organic Chemistry Lab** (2-4 credits)
   - (a) CHEM 2510 Introduction to Experimental Organic Chemistry (F/S/Summer, 2 cr) OR
   - (b) CHEM 3010 Honors Experimental Chemistry (S, 4 cr)

6. **Physiology** (3-4 credits)
   - Choose one of the following:
     - (a) NS 3410 Human Anatomy and Physiology (S, 4 cr) OR
     - (b) BIOAP 3110 Animal Physiology (F, 3 cr)
   * Pre-health students should also consider taking NS 3420 Human Anatomy and Physiology Lab (S, 2 cr).

7. **Biochemistry** (4-6 credits)
   - Choose one of the following:
     - (a) NS 3200 Introduction to Human Biochemistry (F, 4 cr) OR
     - (b) BIOMG 3300 Principles of Biochemistry (F/S, 4 cr) OR
     - (c) BIOMG 3310 Principles of Biochemistry: Proteins and Metabolism (F, 3 cr) AND BIOMG 3320 Principles of Biochemistry: Molecular Biology (S, 2 cr) OR
     - (d) BIOMG 3310 Principles of Biochemistry: Proteins and Metabolism (F, 3 cr) AND BIOMI 2900 General Microbiology (F/S, 3 cr) OR
     - (e) BIOMG 3330 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (Summer, 4 cr) OR
     - (f) BIOMG 3350 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (S, 4 cr)
8. **Biology Electives** *(6 credits)*

6 additional credits selected from didactic courses in the following areas that relate to human biology. Courses are eligible if they require one year of introductory biology or above (e.g., another advanced biology course) as a prerequisite. May not include Special Studies (e.g., NS 4000, 4010, 4020, 4030) or independent research credits (e.g., NS 4990).

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

9. **Survey Course** *(3 credits)*

- **NS 1150** Nutrition, Health and Society (F, S, and Summer online, 3 cr)

10. **Social Science Perspective on Health Selectives** *(6+ credits)*

Courses should cover some aspect of health (including nutrition) from a social science perspective. More than half of the course content must be devoted to consideration of health/life course/disease issues from a social science (sociological, anthropological, psychological, and/or economic) perspective. Courses with a focus on public policy related to health or education/counseling related to health are included in this category.

- **NS 2450** Social Science Perspectives on Food and Nutrition (F, 3 cr)
- **NS 4250** Nutrition Communications and Counseling (S, 3 cr)
- **NS 4450 // AEM 4450** Toward a Sustainable Global Food System: Food Policy for Developing Countries (F, 3 cr)
- **NS 4480** Economics of Food and Malnutrition (S, 3 cr)
- **NS 4500** Public Health Nutrition (S, 3 cr)
- **NS 4570 // ECON 3910** Health, Poverty, and Inequality: A Global Perspective (even F, 3 cr)
- **COMM 4760** Population Health Communication (S, 3 cr)
- **DSOC 2200** Sociology of Health and Ethnic Minorities (F, 3 cr)
- **DSOC 3020** Political Ecologies of Health (S, 3 cr)
- **DSOC 3111 // BSOC 3111 // SOC 3130 // STS 3111** Sociology of Medicine (S, 4 cr)
- **HD 2180** Human Development: Adulthood and Aging (F, 3 cr)
- **HD 2300** Cognitive Development (S, 3 cr)
- **HD 2510** Social Gerontology: Aging and the Life Course (S, 3 cr)
- **HD 2600 // PSYCH 2750** Introduction to Personality Psychology (F, 3 cr)
- **HD 3290** Self-Regulation Across the Life Span (S, 3 cr)
- **HD 3300** Developmental Psychopathology (F, 3 cr)
- **HD 3490** Positive Psychology (S, 3 cr)
- **HD 3570** Social Inequalities in Physical and Mental Health (F, 3 cr)
- **HD 3620** Human Bonding (S, 3 cr)
- **HD 3700 // PSYCH 3250** Adult Psychopathology (S, 3 cr)
- **HD 4570 // SOC 4570** Health and Social Behavior (F, 3 cr)
- **HD 4590** Life Transitions Across the Life Span (F, 3 cr)
- **HD 4770** Psychopathology in Great Works of Literature (S, 3 cr)
- **PAM 2350** The U.S. Health Care System (F, 3 cr)
- **PAM 3110** Pharmaceutical Management and Policy (F, 3 cr)
- **PAM 3280** Fundamentals of Population Health (F, 3 cr)
- **PAM 3780** Sick Around the World? Comparing Health Care Systems Around the World (S, 3 cr)
- **PAM 3870 // 5870** Economic Evaluations in Health Care (S, 3 cr)
- **PAM 4280 // ECON 3710** Economics of Risky Health Behaviors (S, 3 cr)
- **PAM 4370 // ECON 3720** Economics of Health Care Markets (F, 3 cr)

11. **Natural Science Perspective on Health Selectives** *(6+ credits)*

Courses should cover some aspect of health (including nutrition) from a life science perspective. More than half of the course content must be devoted to consideration of health/life course/disease issues from a life science/biological perspective (e.g., biochemical, physiological, molecular, evolutionary, neuroscience, or a combination of these). Courses may be focused on use of diet and other health practices for the prevention and/or treatment of diseases or for the improvement of physiological function.

- **NS 2750** Human Biology and Evolution (F, 3 cr)
- **NS 3030** Nutrition, Health and Vegetarian Diets (S, 3 cr)
- **NS 3050** Nutrition and Global Health (odd F, 3 cr)
- **NS 3150** Obesity and Regulation of Body Weight (even S, 3 cr)
- **NS 3220** Maternal and Child Nutrition (odd S, 3 cr; enrollment restricted – priority to Dietetics students)
- **NS 3310** Nutrient Metabolism (S, 4 cr)
- **NS 3320** Methods in Nutritional Sciences (F, 3 cr)
NS 3450 Introduction to Physiochemical and Biological Aspects of Food (F, 3 cr)
NS 4410 Nutrition and Disease (F, 4 cr)
NS 4420 Implementation of Nutrition Care (F, 3 cr; enrollment restricted – priority to Dietetics students)
NS 6140 Topics in Maternal and Child Nutrition (F, 3 cr)
NS 6310 Micronutrients: Function, Homeostasis and Assessment (F, 2-4 cr)
NS 6320 Regulation of Macronutrient Metabolism (S, 4 cr)
BIOMG 4390 Molecular Basis of Disease (F, 3 cr)
BIOMI 2500 Public Health Microbiology (F, 3 cr)
BIOMI 2600 Microbiology of Human Contagious Diseases (S, 3 cr)
BIOMI 3210 Human Microbes and Health (F, 3 cr)
BIONB 3215 // FGSS 3210 // LGBT 3210 Gender and the Brain (S, 3 cr)
FSAD 4390 Biomedical Materials and Devices for Human Body Repair (F, 3 cr)
HD 2200 The Human Brain and Mind: Biological Issues in Human Development (F, 3 cr)
HD 3250 Neurochemistry of Human Behavior (S, 3 cr)
HD 3660 Affective and Social Neuroscience (S, 3 cr)
HD 4780 Attention Deficit/Hyperactivity Disorder in Children (alt S, 3 cr)
MSE 4610 Biomedical Materials and Their Applications (S, 3 cr)
PLPPM 2950 Biology of Infectious Disease: From Molecules to Ecosystems (F, 3 cr)

12. Nutritional Science Perspective on Health Selectives (3-4 credits)
Courses should cover some aspect of health (including nutrition) from a nutritional science perspective. More than half of the course content must be devoted to consideration of health/life course/disease issues from a nutritional science perspective. Courses may be focused on the use of diet for the prevention and/or treatment of diseases or the improvement of physiological function, or on basic nutritional requirements and concerns of individuals and populations.

NS 3030 Nutrition, Health and Vegetarian Diets (S, 3 cr)
NS 3060 Nutrition and Global Health (odd F, 3 cr)
NS 3150 Obesity and Regulation of Body Weight (even S, 3 cr)
NS 3220 Maternal and Child Nutrition (odd S, 3 cr; enrollment restricted – priority to Dietetics students)
NS 4410 Nutrition and Disease (F, 4 cr-4
NS 4420 Implementation of Nutrition Care (F, 3 cr; enrollment restricted – priority to Dietetics students)
NS 4450 // AEM 4450 Toward a Sustainable Global Food System: Food Policy for Developing Countries (F, 3 cr)
NS 4480 Economics of Food and Malnutrition (S, 3 cr)
NS 4500 Public Health Nutrition (S, 3 cr)

13. First Year Writing Seminars (6 credits)
Note: The 2 required first year writing seminar courses must be completed during the first two semesters at Cornell.

14. Social Sciences (6 credits)
Choose one course in any two of the following four areas:

Anthropology
ANTHR 1400 The Comparison of Cultures (F, 3 cr)

Economics
ECON 1110 Introductory Microeconomics (F/S/Su/Wi, 3 cr) *Counts for Human Ecology credit
ECON 1120 Introductory Macroeconomics (F/S/Su/Wi, 3 cr) *Does not count for Human Ecology credit

Psychology
HD 1150 Human Development: Infancy and Childhood (F, 3 cr)
HD 1170 Adolescence and Emerging Adulthood (S, 3 cr)
PSYCH 1101 Introduction to Psychology (F/Su, 3 cr)

Sociology
DSOC 1101 Introduction to Sociology (F/S, 3 cr)
SOC 1101 Introduction to Sociology (F/S/Su, 3 cr)

15. Humanities (3-4 credits)
Choose any course with the Course Distribution HA, LA, or CA.

16. Calculus/Advanced Math (3-4 credits)
Choose one of the following:
(a) MATH 1105 Finite Mathematics for the Life and Social Sciences (F, 3 cr)
(b) MATH 1106 Calculus for the Life and Social Sciences (S, 3 cr)
(c) MATH 1110 Calculus I (F/S/Sum, 4 cr)
(d) MATH 1120 Calculus II (F/S, 4 cr)
(e) A score of 4 or higher on the AB or BC Calculus AP Exam *
   * See below under Statistics.
17. **Statistics (3-4 credits)**
   Choose one of the following:
   (a) STSCI 2150 Introductory Statistics for Biology (F/S, 4 cr) **(recommended)** OR
   (b) PAM 2100 Introduction to Statistics (S, 4 cr) OR
   (c) AEM 2100 Introductory Statistics (F, 4 cr) OR
   (d) BTRY 3010 Biological Statistics I (F, 4 cr) OR
   (e) ST/STSCI 2100 Introductory Statistics (F/Winter/Summer, 4 cr) OR
   (f) MATH 1710 Statistical Theory and Application in the Real World (F/S, 4 cr) OR
   (g) PSYCH 2500 Statistics and Research Design (F/Summer, 3-4 cr) OR
   (h) SOC 3010 Statistics for Sociological Research (F, 4 cr)
   (i) A score of 4 or 5 on the Statistics AP Exam*

   *CHE students must take either Calculus/Advanced Math or Statistics at Cornell unless they have earned a score of 4 or 5 on the BC Calculus AP Exam. Students in this case may use AP credit for both Calculus/Advanced Math and Statistics.

18. **Electives (Variable)**
   Any courses that are not taken in Areas 1-14 above, count as Electives.

19. **Physical Education Requirement (2 courses)**
   Physical Education must be completed in order to graduate. However, physical education does not count toward college and university minimum credit requirements for full-time status, nor does it count towards the 120 credits required for graduation.

20. **Swim Test Requirement**
   A successful swim test must be completed in order to graduate.

**College Policies:**

- **120 Overall Credits**
  - Students must complete 120 credits toward graduation.
  - A maximum of 15 credits of AP credit and in absentia credit can count towards the 120 total credits.
  - 15 credits of Study Abroad/Exchange, Cornell-In-Washington, or Capital semester can count towards total electives.
  - A course can only count towards the 120 total credits required once.
  - Students who exceed the above parameters—i.e., by taking more than 15 credits in cases (a), (b), and (c), or taking a course more than once—will have their total required credits increase by the same amount, and all credits will be counted toward their GPA. For example, a student who takes a 3-credit course twice to improve their grade will then be required to complete 123 total credits, and will have both grades factored into their GPA.

- **43 HE Credits**
  - Students must complete a minimum of 43 HE credits.
  - HE non-departmental courses at the 2000-level and below do not count toward the 43 HE credits.
  - Students must complete 5 HE credits by the end of the freshmen year and 12 HE credits by the end of the sophomore year.

- **9 HE Credits outside the major**
  - Students must complete a minimum of 9 HE credits outside of NS. These credits are given for any Human Ecology course outside your major (except 4030). These can be taken S/U only if course is NOT used to fulfill a curriculum requirement.

- **Pass/Fail Courses [S/U]**
  - S/U grading option may NOT be used for any required course [Areas 1-14] unless it is the only grade option offered for those courses.
  - S/Us MAY be used for the 9 HE Credits outside the major and for electives in Area 15.
  - Students may apply no more than 12 credits of S/U towards graduation requirements. If a required course is only offered S/U, it will not count towards this limit. Students may take more S/Us if they choose, but the additional credit will not be applied towards graduation.
  - The **deadline for changing grade options is the 57th calendar day of the semester**, the same as the “drop” deadline.

- **Special Study Courses [4000, 4010, 4020, 4030]**
  - A maximum of 12 credits of special study course work from Human Ecology or other colleges will count towards the 120 overall credits (e.g. DNS special studies course work includes NS 4000, 4010, 4020, and 4030). Courses will be indicated on the class roster with a Component of either IND or RSC. [Additional credits can be taken but will not be applied.]
  - A maximum of 12 credits of 4000-4030 may count toward the 43 HE credit requirement.
  - A maximum of 3 credits of 4000-4020 (not including 4030) may count towards the 9 credits outside the major requirement as long as the special study is in a department outside the student’s major.
  - Students cannot TA (4030) the same course for credit more than once or take and TA the same course simultaneously. 4030 does not fulfill any requirements towards the major. Registration for 4030 may not exceed 5 credits per semester.
  - Students who wish to take NS Special Studies Courses must have taken and passed at least 2 S/U credits of the **same course**.
Sample Schedules for Human Biology, Health, and Society Majors (CHE only)

1. Sample schedules are meant only as a guide, representing one of many ways to complete the HBHS major, and are not an adequate substitute for meeting with faculty advisor(s) and making a personal plan. Most major and college requirements can be met with multiple options that should be considered in light of an individual student’s College, interests, professional goals, and other schedule constraints.

2. Students must complete an overall average of 15 credits per semester to graduate with the required 120. As a result, the courses listed in each semester do not necessarily represent the student’s actual full semester load—particularly in later semesters, as the variability in students' remaining requirements and electives increases.

### “BASELINE” SCHEDULE
(i.e., not pre-health or dietetics, no plans to study abroad)

**FRESHMAN YEAR**

<table>
<thead>
<tr>
<th>FALL</th>
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<tbody>
<tr>
<td>1) NS 1150 Nutrition and Health (3 cr)</td>
<td>1) NS 1200 Nutrition and Health: Issues, Outlooks and Opportunities (1 cr)</td>
</tr>
<tr>
<td>2) CHEM 2070 Introductory Chemistry I (4 cr)</td>
<td>2) CHEM 2080 Introductory Chemistry II (4 cr)</td>
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<tr>
<td>3) CHEM 1007 Academic Support for CHEM 2070 (1 cr)</td>
<td>3) CHEM 1008 Academic Support for CHEM 2080 (1 cr)</td>
</tr>
<tr>
<td>4) Introductory biology lecture [e.g. BIOMG 1350, BIOG 1440, or BIOEE 1610 or 1780] (3 cr) OR Social Sciences course [e.g. PSYCH 1101 Introduction to Psychology (3 cr) OR HD 1150 Human Development: Infancy and Childhood (3 cr)]</td>
<td>4) BIOG 1500 Investigative Lab (2 cr) OR introductory biology lecture [e.g. BIOMG 1350, BIOG 1445, or BIOEE 1610 or 1780] (3 cr)</td>
</tr>
<tr>
<td>5) Freshman Writing Seminar (required fall of freshman year)</td>
<td>5) DSOC 1101 Introduction to Sociology (3 cr) OR DSOC 1101 Introduction to Sociology (3 cr)</td>
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**SOPHOMORE YEAR**

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<tr>
<td>1) Remaining introductory biology requirements: BIOG 1500 Investigative Lab (2 cr) AND/OR introductory biology lecture [e.g. BIOMG 1350 or BIOG 1445] (3 cr)</td>
<td>1) CHEM 2510 Introduction to Experimental Organic Chemistry (2 cr)</td>
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<tr>
<td>2) CHEM 3530 Principles of Organic Chemistry (4 cr)</td>
<td>2) HBHS selective</td>
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<tr>
<td>3) ANTHR 1400 The Comparison of Cultures (3 cr)</td>
<td>3) MATH 1106 Calculus for the Life and Social Sciences (3 cr)</td>
</tr>
<tr>
<td>4) Human Ecology credits (NS, DEA, FSAD, HD, or PAM)</td>
<td>4) Humanities course (attributes HA, LA, or CA)</td>
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**JUNIOR YEAR**

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<tr>
<td>1) NS 3200 Biochemistry (4 cr) OR BIOMG 3300 Principles of Biochemistry (4 cr)</td>
<td>1) Biology elective</td>
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<td>2) HBHS selective</td>
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<td>3) Biology elective</td>
<td>3) NS 3410 Anatomy and Physiology (4 cr)</td>
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<tr>
<td>4) Human Ecology course (DEA, FSAD, HD, or PAM)</td>
<td>4) non-NS Human Ecology course (NS, DEA, FSAD, HD, or PAM)</td>
</tr>
<tr>
<td>5) PHYS 1101 General Physics I</td>
<td><em><strong>plus remaining Human Ecology or general elective credits, according to needs and interests</strong></em></td>
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**SENIOR YEAR**

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<tbody>
<tr>
<td>1) HBHS selective</td>
<td>1) CHEM 2800 Introductory Chemistry III (4 cr)</td>
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<td>2) HBHS selective</td>
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<td>3) Human Ecology course (NS, DEA, FSAD, HD, or PAM)</td>
<td>3) NS 3410 Anatomy and Physiology (4 cr)</td>
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<td>4) STSCI 2150 Introductory Statistics for Biology (4 cr)</td>
<td>4) non-NS Human Ecology course (NS, DEA, FSAD, HD, or PAM)</td>
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<td><em><strong>plus remaining Human Ecology or general elective credits, according to needs and interests</strong></em></td>
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</table>
**PRE-HEALTH (or possibility of pre-health)**

*(not dietetics, no plans to study abroad)*

***It is very important that students pursuing or considering a pre-health track speak with a pre-health advisor either within their College or through University Career Services. See The Pre-Health Track as a DNS Undergraduate for more information.***

### FRESHMAN YEAR

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<td>2) CHEM 2070 Introductory Chemistry I (4 cr)</td>
<td>2) CHEM 2080 Introductory Chemistry II (4 cr)</td>
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<td>3) CHEM 1007 Academic Support for CHEM 2070 (1 cr)</td>
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<tr>
<td>4) BIOG 1440 Introductory Biology: Comparative Physiology (3 cr)</td>
<td>4) BIOMG 1350 Introductory Biology: Cell and Developmental Biology (3 cr)</td>
</tr>
<tr>
<td>5) Freshman Writing Seminar (3 cr, <strong>required fall of freshman year</strong>)</td>
<td>5) Freshman Writing Seminar (<strong>required spring of freshman year</strong>) (3 cr)</td>
</tr>
<tr>
<td>6) PSYCH 1101 Introduction to Psychology (3 cr) OR HD 1150 Human Development: Infancy and Childhood (3 cr)</td>
<td>6) DSOC 1101 Introduction to Sociology (3 cr) OR DSOC 1110 Introduction to Sociology (3 cr)</td>
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### SOPHOMORE YEAR

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<tbody>
<tr>
<td>1) BIOG 1500 Investigative Lab (2 cr)</td>
<td>1) HBHS selective</td>
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<tr>
<td>2) CHEM 3570 Organic Chemistry for the Life Sciences I (3 cr)</td>
<td>2) CHEM 3580 Organic Chemistry for the Life Sciences II (3 cr)</td>
</tr>
<tr>
<td>3) MATH 1110 Calculus I (4 cr)</td>
<td>3) CHEM 2510 Introduction to Experimental Organic Chemistry (2 cr)</td>
</tr>
<tr>
<td>4) ANTHR 1400 The Comparison of Cultures (3 cr)</td>
<td>4) Biology elective [e.g. BIOMI 2900 General Microbiology Lectures (3-4 cr)]</td>
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<tr>
<td>5) Humanities course (<strong>attributes HA, LA, or CA</strong>)</td>
<td><strong>HBHS selective</strong></td>
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### JUNIOR YEAR

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<tr>
<td>1) NS 3200 Biochemistry (4 cr)</td>
<td>1) NS 3410 Anatomy and Physiology (4 cr)</td>
</tr>
<tr>
<td>2) HBHS selective</td>
<td>2) NS 3420 Anatomy and Physiology Lab (2 cr)</td>
</tr>
<tr>
<td>3) Biology elective [e.g. BIOMG 2800 Lectures in Genetics and Genomics, <strong>recommended for pre-health</strong> (3 cr)]</td>
<td>3) HBHS selective</td>
</tr>
<tr>
<td>4) PHYS 1101 Fundamentals of Physics I (4 cr)</td>
<td>4) Additional biology elective, if desired, according to interests</td>
</tr>
<tr>
<td>5) Additional biology elective, if desired, according to interests</td>
<td>5) PHYS 1102 Fundamentals of Physics II (4 cr)</td>
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### SENIOR YEAR

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<td>3) STSCI 2150 Introductory Statistics for Biology (4 cr)</td>
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***plus remaining Human Ecology or general elective credits, according to needs and interests***

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42
**within-year STUDY ABROAD**
(not pre-health or dietetics)

**NOTE:** Students interested in spending a semester away from Cornell should meet with a Study Abroad advisor within their College as well as formulate a course plan for graduation as soon as possible. Students who spend a semester away from Cornell need to take 2-3 more credits per semester on average than students spending 8 semesters at Cornell to credit requirements for graduation.

**FRESHMAN YEAR**

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<tr>
<td>2) CHEM 2070 Introductory Chemistry I (4 cr)</td>
<td>2) CHEM 2080 Introductory Chemistry II (4 cr)</td>
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<tr>
<td>3) CHEM 1007 Academic Support for CHEM 2070 (1 cr)</td>
<td>3) CHEM 1008 Academic Support for CHEM 2080 (1 cr)</td>
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<td>4) Introductory biology lecture [e.g. BIOMG 1350, BIOG 1440, or BIOEE 1610 or 1780] (3 cr) OR Social Sciences course [e.g. PSYCH 1101 Introduction to Psychology (3 cr) OR HD 1150 Human Development: Infancy and Childhood (3 cr)]</td>
<td>4) BIOMG 1350 Introductory Biology: Cell and Developmental Biology (3 cr)</td>
</tr>
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<td>5) Freshman Writing Seminar (3 cr, required fall of freshman year)</td>
<td>5) Freshman Writing Seminar (required spring of freshman year) (3 cr)</td>
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**SOPHOMORE YEAR**

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<td>1) Remaining introductory biology requirements: BION 1500 Investigative Lab (2 cr) AND/OR Introductory biology lecture [e.g. BIOMG 1350 or BIOG 1445] (3 cr)</td>
<td>1) HBHS selective</td>
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<tr>
<td>2) CHEM 3530 Principles of Organic Chemistry (4 cr)</td>
<td>2) CHEM 2510 Introduction to Experimental Organic Chemistry (2 cr)</td>
</tr>
<tr>
<td>3) ANTHR 1400 The Comparison of Cultures (3 cr)</td>
<td>3) Biology elective</td>
</tr>
<tr>
<td>4) Human Ecology credits (NS, DEA, FSAD, HD, or PAM)</td>
<td>4) MATH 1106 Calculus for the Life and Social Sciences (3 cr)</td>
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**JUNIOR YEAR**

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<tbody>
<tr>
<td>ELO // STUDY ABROAD SEMESTER</td>
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<tr>
<td>1) BIOMG 3300 Principles of Biochemistry (4 cr)</td>
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<tr>
<td>2) NS 3410 Human Anatomy and Physiology (S, 4 cr)</td>
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<tr>
<td>3) HBHS selective</td>
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<tr>
<td>4) HBHS selective</td>
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<td>5) Biology elective</td>
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***plus remaining Human Ecology or general elective credits, according to needs and interests***

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<td>2) HBHS selective</td>
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</tr>
<tr>
<td>3) PHYS 1101 Fundamentals of Physics I (4 cr)</td>
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</tr>
<tr>
<td>4) STSCI 2150 Introductory Statistics for Biology (4 cr)</td>
<td><strong>any remaining Human Ecology or general elective credits, according to needs and interests</strong>*</td>
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***plus remaining Human Ecology or general elective credits, according to needs and interests***

43
**DIETETICS**
(not pre-health, no plans to study abroad)

***It is very important that students speak with Dr. Pam Shapiro to be sure to meet all dietetics requirements on time and in the right sequence. See The Didactic Program in Dietetics for more information.***

### FRESHMAN YEAR

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<tbody>
<tr>
<td>1) NS 1150 Nutrition and Health (3 cr)</td>
<td>1) NS 1220 Nutrition and the Life Cycle (3 cr)</td>
</tr>
<tr>
<td>2) CHEM 2070 Introductory Chemistry I (4 cr)</td>
<td>2) CHEM 2080 Introductory Chemistry II (4 cr)</td>
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<td>3) CHEM 1007 Academic Support for CHEM 2070 (1 cr)</td>
<td>3) CHEM 1008 Academic Support for CHEM 2080 (1 cr)</td>
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<tr>
<td>4) BIOG 1440 Introductory Biology: Comparative Physiology (3 cr)</td>
<td>4) BIOMG 1350 Introductory Biology: Cell and Developmental Biology (3 cr)</td>
</tr>
<tr>
<td>5) Freshman Writing Seminar (3 cr, <strong>required fall of freshman year</strong>)</td>
<td>5) Freshman Writing Seminar (<strong>required spring of freshman year</strong>) (3 cr)</td>
</tr>
<tr>
<td>6) PSYCH 1101 Introduction to Psychology (3 cr) <strong>OR</strong> HD 1150 Human Development: Infancy and Childhood (3 cr)</td>
<td>6) DSOC 1101 Introduction to Sociology (3 cr) <strong>OR</strong> DSOC 1101 Introduction to Sociology (3 cr)</td>
</tr>
</tbody>
</table>

### SOPHOMORE YEAR

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) NS 2470 Food for Contemporary Living (2 cr)</td>
<td>1) NS 3410 Anatomy and Physiology (4 cr)</td>
</tr>
<tr>
<td>2) NS 2450 Social Science Perspectives on Food and Nutrition (3 cr)</td>
<td>2) NS 3420 Anatomy and Physiology Lab (2 cr)</td>
</tr>
<tr>
<td>3) CHEM 3530 Principles of Organic Chemistry (4 cr)</td>
<td>3) NS 2470 Food for Contemporary Living (2 cr; <strong>if still needed</strong>)</td>
</tr>
<tr>
<td>4) CHEM 2510 Introduction to Experimental Organic Chemistry (2 cr)</td>
<td>4) BIOMI 2900 General Microbiology Lectures (3-4 cr)</td>
</tr>
<tr>
<td>5) Introductory biology lecture [e.g. BIOG 1440 or 1445, or BIOEE 1610 or 1780] (3 cr)</td>
<td>5) MATH 1106 Calculus for the Life and Social Sciences (3 cr)</td>
</tr>
<tr>
<td>6) ANTHR 1400 The Comparison of Cultures (3 cr)</td>
<td>6) Humanities course (<strong>attributes HA, LA, or CA</strong>)</td>
</tr>
</tbody>
</table>

### JUNIOR YEAR

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) NS 3200 Biochemistry (4 cr) <strong>OR</strong> BIOMG 3300 Principles of Biochemistry (4 cr)</td>
<td>1) NS 3310 Nutrient Metabolism (4 cr)</td>
</tr>
<tr>
<td>2) NS 3450 Introduction to Physiochemical and Biological Aspects of Foods (3 cr)</td>
<td>2) NS 4500 Public Health Nutrition (3 cr) (<strong>OR</strong> NS 1600 in fall)</td>
</tr>
<tr>
<td>3) BIOMI 2900 General Microbiology Lectures (3-4 cr; <strong>if still needed</strong>)</td>
<td>3) Biology elective</td>
</tr>
<tr>
<td>4) HADM 3365 Food Service Management Essentials (3 cr)</td>
<td>4) Statistics</td>
</tr>
<tr>
<td>5) HBHS selective (<strong>Social Science Perspective on Health; DPD requirements fulfill Natural Science Perspective on Health and Nutritional Science Perspective on Health categories</strong>)</td>
<td><strong><strong>plus remaining Human Ecology or general elective credits, according to needs and interests</strong></strong></td>
</tr>
<tr>
<td>6) PHYS 1101 Fundamentals of Physics I (4 cr)</td>
<td></td>
</tr>
</tbody>
</table>

### SENIOR YEAR

<table>
<thead>
<tr>
<th>FALL</th>
<th>SPRING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) NS 3320 Methods in Nutritional Science (3 cr)</td>
<td>1) NS 4250 Nutrition Communications and Counseling (3 cr)</td>
</tr>
<tr>
<td>2) NS 4410 Nutrition and Disease (4 cr)</td>
<td>2) NS 4880 Applied Dietetics in Food Service Systems (4 cr)</td>
</tr>
<tr>
<td>3) NS 4420 Implementation of Nutrition Care (3 cr)</td>
<td>3) NS 4500, if neither that nor NS 1600 taken yet (3 cr)</td>
</tr>
<tr>
<td>4) NS 1600 Intro to Public Health (3 cr; <strong>if NS 4500 not taken</strong>)</td>
<td><strong><strong>plus remaining Human Ecology or general elective credits, according to needs and interests</strong></strong></td>
</tr>
</tbody>
</table>

***plus remaining Human Ecology or general elective credits, according to needs and interests***
Requirements for Global and Public Health Sciences majors

in the College of Human Ecology 2018-2019

- The requirements listed below pertain to all students matriculating in August 2018 and January 2019 (see also https://www.human.cornell.edu/academics/policies/degreeprogress/curriculumsheets).
- All of the following sections are required to be completed to graduate. Courses in areas 1-16 must be taken for a Letter Grade.

<table>
<thead>
<tr>
<th>Overall Credits (REQUIRED)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total:</strong> 120 credits</td>
</tr>
<tr>
<td><strong>Human Ecology:</strong> 43 credits</td>
</tr>
<tr>
<td><strong>Human Ecology, outside the major:</strong> 9 credits (from DEA, FSAD, HD, PAM any level, or HE at the 3000/4000 level)</td>
</tr>
</tbody>
</table>

1. **Introductory Chemistry** (4+ credits)
   Choose one of the following:
   (a) CHEM 2070 General Chemistry I * ^ (F, 4 cr) AND CHEM 2080 General Chemistry II (S, 4 cr) (two-course sequence required for pre-health)
   (b) CHEM 2070 General Chemistry I * (F, 4 cr) (single course not adequate for pre-health)
   (c) CHEM 1560 Introduction to General Chemistry * (F/Summer, 4 cr) (not for pre-health)
   (d) CHEM 2150 Honors General and Inorganic Chemistry ^ (F/Summer, 4 cr) (not for pre-health)

   * Students may use an AP Chemistry score of 5 to place out of CHEM 2070. However, GPHS students must take at least one semester of chemistry at Cornell—i.e., students who use AP credit toward their chemistry requirement must take an additional chemistry course (i.e., CHEM 2080, CHEM 2150, or other, but not CHEM 1560). Students interested in the pre-health track should take two semesters of chemistry at Cornell.
   ^ Students who take CHEM 2070 forfeit AP credit. Students who take CHEM 2150 may keep AP credit.

2. **Introductory Biology** (8 credits)
   Choose one of the following labs:
   (a) BIOG 1500 Investigative Lab (F/S, 2 cr) OR
   (b) BIOSM 1500 Investigative Marine Biology Lab (Su, 3 cr)
   AND choose two out of the three lecture options
   (a) BIOMG 1350 Cell and Developmental Biology (F/S, 3 cr)
   (b) BIOG 1440 Comparative Physiology (F/S, 3 cr) OR*
   BIOG 1445 Comparative Physiology (autotutorial) (F/S, 4cr)
   (c) BIOEE 1610 Ecology and the Environment (F/S, 3cr) OR*
   BIOEE 1780 Evolution and Diversity (F/S, 3cr)

   * Cannot take both to fulfill this requirement.

3. **Organic Chemistry Lecture** (3-8 credits)*
   Choose one of the following:
   (a) CHEM 1570 Elementary Organic Chemistry (S only, 3 cr, not for pre-health) OR
   (b) CHEM 3530 Principles of Organic Chemistry (F only, 4 cr, not for pre-health) OR
   (c) CHEM 3570-3580 Introductory Organic Chemistry (F and S, 3 cr each, must take both, CHEM 3570 alone will not fulfill the requirement) OR
   (d) CHEM 3590-3600 Organic Chemistry (S and F, 4 cr each, must take both, CHEM 3590 alone will not fulfill the requirement)

   * Students interested in pre-health tracks should take a two-course sequence of organic chemistry lectures (option c or d above), in addition to an organic chemistry lab.

4. **Physiology** (3-4 credits)
   Choose one of the following:
   (a) NS 3410 Human Anatomy and Physiology (S, 4 cr) OR *
   (b) BIOG 1440 Comparative Physiology (F/S, 3 cr) OR **
   BIOG 1445 Comparative Physiology (autotutorial) (F/S, 4cr) OR
   (c) NS 1150 Nutrition, Health, and Society (F, S and summer online, 3 cr)

   * Pre-health students should also consider taking NS 3420 Human Anatomy and Physiology Lab (S, 2 cr).
   ** Cannot take both to fulfill this requirement. Can only be used to fulfill physiology requirement if not used to fulfill introductory biology requirement.
5. **Biochemistry (4-6 credits)**
   Choose one of the following *:
   (a) NS 3200 Introduction to Human Biochemistry (F, 4 cr) OR
   (b) BIOMG 3300 Principles of Biochemistry (F/S, 4 cr) OR
   (c) BIOMG 3310 Principles of Biochemistry: Proteins and Metabolism (F, 3 cr) AND BIOMG 3320 Principles of Biochemistry: Molecular Biology (S, 2 cr) OR
   (d) BIOMG 3310 Principles of Biochemistry: Proteins and Metabolism (F, 3 cr) AND BIOMI 2900 General Microbiology (F/S, 3 cr) OR
   (e) BIOMG 3330 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (Summer, 4 cr) OR
   (f) BIOMG 3350 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (S, 4 cr)

   * Students who take only one semester of introductory chemistry should talk with faculty advisors and biochemistry instructors as early as possible to determine which biochemistry course is best for them and how they may access resources for the best chance of success.

6. **Global & Public Health Core Courses (14 credits)**
   NS 1600 Introduction to Public Health (F, 3 cr)
   NS 2060 Preparation for Engaged Learning (F, 2 cr)
   NS 2600 Introduction to Global Health (S, 3 cr)
   NS 3600 Epidemiology (F, 3 cr)
   NS 4600 Explorations in Global and Public Health (F, 3 cr)

7. **Supervised Experiential Learning in Global & Public Health (3+ credits)**
   Pre-approval required. May be completed anytime from spring semester sophomore year onward. Must be largely completed before the fall semester of senior year.
   This experience may be obtained through one of several options, including (but not limited to):
   - Urban semester
   - Global Health Summer Programs
   - Cornell in Washington
   - Public Health Research and Internship
   - Cornell Cooperative Extension (Tompkins County and others)
   May require additional context-specific preparation, such as NS 2061 (individual faculty sections) or NS 4620 (Tanzania, Zambia, Dominican Republic).

8. **Social & Behavioral Health Selective (3-4 credits)**
   Choose one course from the following options:
   - NS 2450 Social Science Perspectives on Food and Nutrition (F, 3 cr)
   - ANTHR 2021, BSOC // FGSS // LGBT // STS 2841 Viruses–Humans–Viral Politics (Social History and Cultural Politics of HIV & AIDS) (S, 4 cr)
   - ANTHR 2468 Medicine, Culture, and Society (S, 3 cr)
   - COMM 4760 Population Health Communication (S, 3 cr)
   - DSOC // LSP 2200 Sociology of Health and Ethnic Minorities (F, 3 cr)
   - DSOC 3020 Political Ecologies of Health (S, 3 cr)
   - HD 3570 // SOC 3670 Social Inequalities in Physical and Mental Health (F, 3 cr)
   - PAM 3280 // DSOC 3280 Fundamentals of Population Health (F, 3 cr)
   - PAM 4280 // ECON 3710 The Economics of Risky Health Behaviors (S, 3 cr)
   - SOC 3160 Social Context and Health (S, 4 cr)

9. **Biological Aspects of Public Health Selective (3-4 credits)**
   Choose one course from the following options:
   - NS 3030 Nutrition, Health and Vegetarian Diets (S, 3 cr)
   - NS 3060 Nutrition and Global Health (odd F, 3 cr)
   - NS 3150 Obesity and the Regulation of Body Weight (even S, 3 cr)
   - NS 4410 Nutrition and Disease (F, 4 cr)
   - BIOMG 4390 Molecular Basis of Disease (S, 3 cr)
   - BIOMG 4870 Human Genomics (F, 3 cr)
   - BIOMI 2600 Microbiology of Human Contagious Diseases (S, 3 cr)
   - BIOMI 3210 Human Microbes and Health (F, 3 cr)

10. **Environmental Health Selective (3-4 credits)**
    Choose one course from the following options:
    - DEA 2700 Healthy Places: Design, Planning and Public Health (F, 3 cr)
    - DSOC 3020 Political Ecologies of Health (S, 3 cr)
    - DSOC 3400 Agriculture, Food Systems and Society (F, 3 cr)
BIOMI 2500 Public Health Microbiology (F, 3 cr)
BIOMI 4310 // BIOMS 4310 Medical Parasitology (F, 2 cr)
CEE 5970 // TOX 5970 Risk Analysis and Management (S, 3 cr)
COMM 2850 // STS 2851 Communication, Environment, Science and Health (S, 3 cr)
ENTOM 2100 // BSOCS 2101 Plagues and People (S, 2-3 cr)
ENTOM 3070 // TOX 3070 Pesticides, the Environment, and Human Health (even F, 2 cr)
ENTOM 3520 Medical and Veterinary Entomology (odd F, 3 cr)
FDSC 3960 Food Safety Assurance (S, 2 cr)
ILRIC 3342 Workplace Health and Safety as a Human Right (S, 4 cr)

11. **Health Policy & Practice Selective (3-4 credits)**
    Choose one course from the following options:

    - NS 4500 Public Health Nutrition (S, 3 cr)
    - NS 4570 // ECON 3910 Health, Poverty and Inequality (even F, 3 cr)
    - NS 4800 Implementation and Impact in Global and Public Health (S, 4 cr; restricted to students in the Cornell in Washington program)
    - AMST // GOVT 2225, DSOC // ILROB // PAM // SOC 2220, PHIL 1950 Controversies about Inequality (F, 4 cr)
    - ANTHR // EDUC // FGSS 4458 Women, Girls and Gender in Education (F, 4 cr)
    - CRP 3430 Affordable Housing Policy and Programs (F, 3 cr)
    - DSOC 2050 International Development (S, 3-4 cr)
    - DSOC 2090, PAM // SOC 2208 Social Inequality (S/Summer, 4 cr)
    - DSOC 3020 Political Ecologies of Health (S, 3 cr)
    - DSOC 3700 // SOC 3710 Comparative Social Inequalities (S, 3 cr)
    - DSOC 4230 Gender and Health: Concepts, Data, Theories and Evidence (F, 3 cr)
    - ECON 3740 // PAM 4140 Global Health Economics and Policy (F, 3 cr)
    - GOVT 3032 Politics of Public Policy in the U.S. (S, 4 cr)
    - PAM 2030 Population and Public Policy (S, 3-4 cr)
    - PAM 2350 The US Health Care System (F, 3 cr)
    - PAM 3110 Pharmaceutical Management and Policy (F, 3 cr)
    - PAM // SOC 3370 Race and Public Policy (F, 3 cr)
    - PAM 3780 Sick Around the World? Comparing Health Care Systems Around the World (S, 3 cr)
    - PAM 3870 // 5870 Economic Evaluations in Health Care (S, 3 cr)
    - PAM 4370 // ECON 3720 Economics of Health Care Markets (F, 3 cr)

12. **First Year Writing Seminars (6 credits)**
    Note: The 2 required first year writing seminar courses must be completed during the first two semesters at Cornell.

13. **Social Sciences (6 credits)**
    Choose one course in any two of the following four areas:

    - **Anthropology**
      ANTHR 1400 The Comparison of Cultures (F, 3 cr)
    - **Economics**
      ECON 1110 Introductory Microeconomics (F/S/Su/Wi, 3 cr) *Counts for Human Ecology credit
      ECON 1120 Introductory Macroeconomics (F/S/Su/Wi, 3 cr) *Does not count for Human Ecology credit
    - **Psychology**
      HD 1150 Human Development: Infancy and Childhood (F, 3 cr)
      HD 1170 Adolescence and Emerging Adulthood (S, 3 cr)
      PSYCH 1101 Introduction to Psychology (F/Su, 3 cr)
    - **Sociology**
      DSOC 1101 Introduction to Sociology (F/S, 3 cr)
      SOC 1101 Introduction to Sociology (F/S/Su, 3 cr)

14. **Humanities (3-4 credits)**
    Choose any course with the Course Distribution HA, LA, or CA.

15. **Statistics (3-4 credits)**
    STSCI 2150 Introductory Statistics for Biology (F/S, 4 cr) *Must be taken at Cornell; AP Statistics is not accepted.

16. **Additional Requirements (10-12 credits)**
    Any course with the Course Distribution PBS, SBA, KCM, MQR, LA, CA, or HA. Language courses may count here. For example, students interested in pre-health tracks (e.g. medicine or physical therapy) could fulfill this requirement by taking
required pre-health courses such as CHEM 2080 General Chemistry II, an organic chemistry lab, and two-course sequences in both organic chemistry and physics.

17. **Electives** *(Variable)*
   Any courses that are not taken in Areas 1-16 above, count as Electives.

18. **Physical Education Requirement** *(2 courses)*
   Physical Education must be completed in order to graduate. However, physical education does not count toward college and university minimum credit requirements for full-time status, nor does it count towards the 120 credits required for graduation.

19. **Swim Test Requirement**
   A successful swim test must be completed in order to graduate.

**College Policies:**

- **120 Overall Credits**
  - Students must complete 120 credits toward graduation.
  - A maximum of 15 credits of AP credit and in-absentia credit can count towards the 120 total credits.
  - 15 credits of Study Abroad/Exchange, Cornell-in-Washington, or Capital semester can count towards total electives.
  - A course can only count towards the 120 total credits required once.
  - Students who exceed the above parameters—i.e., by taking more than 15 credits in cases (a), (b), and (c), or taking a course more than once—will have their total required credits increase by the same amount, and all credits will be counted toward their GPA. For example, a student who takes a 3-credit course twice to improve their grade will then be required to complete 123 total credits, and will have both grades factored into their GPA.

- **43 HE Credits**
  - Students must complete a minimum of 43 HE credits.
  - HE non-departmental courses at the 2000-level and below do not count toward the 43 HE credits.
  - Students must complete 5 HE credits by the end of the freshmen year and 12 HE credits by the end of the sophomore year.

- **9 HE Credits outside the major**
  - Students must complete a minimum of 9 HE credits outside of NS. These credits are given for any Human Ecology course outside your major (except 4030). These can be taken S/U only if course is NOT used to fulfill a curriculum requirement.

- **Pass/Fail Courses [S/U]**
  - S/U grading option may NOT be used for any required course [Areas 1-14] unless it is the only grade option offered for those courses.
  - S/Us MAY be used for the 9 HE Credits outside the major and for electives in Area 15.
  - Students may apply no more than 12 credits of S/U towards graduation requirements. If a required course is only offered S/U, it will not count towards this limit. Students may take more S/Us if they choose, but the additional credit will not be applied towards graduation.
  - The **deadline for changing grade options is the 57th calendar day of the semester**, the same as the “drop” deadline.

- **Special Study Courses [4000, 4010, 4020, 4030]**
  - A maximum of 12 credits of special study course work from Human Ecology or other colleges will count towards the 120 overall credits (e.g. DNS special studies course work includes NS 4000, 4010, 4020, and 4030). Courses will be indicated on the class roster with a Component of either IND or RSC. [Additional credits can be taken but will not be applied.]
  - A maximum of 12 credits of 4000-4030 may count toward the 43 HE credit requirement.
  - A maximum of 3 credits of 4000-4020 (not including 4030) may count towards the 9 credits outside the major requirement as long as the special study is in a department outside the student’s major.
  - Students cannot TA (4030) the same course for credit more than once or take and TA the same course simultaneously. 4030 does not fulfill any requirements towards the major. Registration for 4030 may not exceed 5 credit hours per semester.
  - Students who wish to take NS Special Studies Courses must have taken and passed at least 2 S/U credits of the same course.
Requirements for Global and Public Health Sciences majors

In the College of Agriculture and Life Sciences 2018-2019

- The requirements listed below pertain to all students matriculating in August 2018 and January 2019 (see also https://cals.cornell.edu/academics/registrar/degree-requirements/ for a detailed description of CALS distribution requirements).
- All of the following sections are required to be completed to graduate. Courses in areas 1-16 must be taken for a Letter Grade.

<table>
<thead>
<tr>
<th>Overall Credits (REQUIRED)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total: 120 credits</td>
</tr>
<tr>
<td>CALS: 55 credits</td>
</tr>
<tr>
<td>CALS, outside the major: 9 credits</td>
</tr>
</tbody>
</table>

1. **Introductory Chemistry (4+ credits)**
   Choose one of the following:
   (a) **CHEM 2070** General Chemistry I * ^ (F, 4 cr) AND **CHEM 2080** General Chemistry II (S, 4 cr) (two-course sequence required for pre-health)
   (b) **CHEM 2070** General Chemistry I * (F, 4 cr) (single course not adequate for pre-health)
   (c) **CHEM 1560** Introduction to General Chemistry * (F/Summer, 4 cr) (not for pre-health)
   (d) **CHEM 2150** Honors General and Inorganic Chemistry ^ (F/Summer, 4 cr) (not for pre-health)

   * Students may use an AP Chemistry score of 5 to place out of **CHEM 2070**. However, GPHS students must take at least one semester of chemistry at Cornell—i.e., students who use AP credit toward their chemistry requirement must take an additional chemistry course (i.e., **CHEM 2080**, **CHEM 2150**, or other, but not **CHEM 1560**). Students interested in the pre-health track should take two semesters of chemistry at Cornell.
   ^ Students who take **CHEM 2070** forfeit AP credit. Students who take **CHEM 2150** may keep AP credit.

2. **Introductory Biology (8 credits)**
   Choose one of the following labs:
   (a) **BIOG 1500** Investigative Lab (F/S, 2 cr) OR
   (b) **BIOSM 1500** Investigative Marine Biology Lab (Su, 3 cr)
   AND choose two out of the three lecture options
   (a) **BIOMG 1350** Cell and Developmental Biology (F/S, 3 cr)
   (b) **BIOG 1440** Comparative Physiology (F/S, 3 cr) OR*
      **BIOG 1445** Comparative Physiology (autotutorial) (F/S, 4 cr)
   (c) **BIOEE 1610** Ecology and the Environment (F/S, 3cr) OR*
      **BIOEE 1780** Evolution and Diversity (F/S, 3cr)

   * Cannot take both to fulfill this requirement.

3. **Organic Chemistry Lecture (3-8 credits)***
   Choose one of the following:
   (a) **CHEM 1570** Elementary Organic Chemistry (S only, 3 cr, not for pre-health) OR
   (b) **CHEM 3530** Principles of Organic Chemistry (F only, 4 cr) OR
   (c) **CHEM 3570-3580** Introductory Organic Chemistry (F and S, 3 cr each, must take both, **CHEM 3570** alone will not fulfill the requirement) OR
   (d) **CHEM 3590-3600** Organic Chemistry (S and F, 4 cr each, must take both, **CHEM 3590** alone will not fulfill the requirement)

   * Students interested in pre-health tracks should take a two-course sequence of organic chemistry lectures (option c or d above), in addition to an organic chemistry lab.

4. **Physiology (3-4 credits)**
   Choose one of the following:
   (a) **NS 3410** Human Anatomy and Physiology (S, 4 cr) OR *
   (b) **BIOG 1440** Comparative Physiology (F/S, 3 cr) OR **
      **BIOG 1445** Comparative Physiology (autotutorial) (F/S, 4cr) OR
   (c) **NS 1150** Nutrition, Health, and Society (F, S and summer online, 3 cr)

   * Pre-health students should also consider taking **NS 3420** Human Anatomy and Physiology Lab (S, 2 cr).
   ** Cannot take both to fulfill this requirement. Can only be used to fulfill physiology requirement if not used to fulfill introductory biology requirement.
5. **Biochemistry (4-6 credits)**
   Choose one of the following *:
   
   a. NS 3200 Introduction to Human Biochemistry (F, 4 cr) OR
   b. BIOMG 3300 Principles of Biochemistry (F/S, 4 cr) OR
   c. BIOMG 3310 Principles of Biochemistry: Proteins and Metabolism (F, 3 cr) AND BIOMG 3320 Principles of Biochemistry: Molecular Biology (S, 2 cr) OR
   d. BIOMG 3310 Principles of Biochemistry: Proteins and Metabolism (F, 3 cr) AND BIOMI 2900 General Microbiology (F/S, 3 cr) OR
   e. BIOMG 3330 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (Summer, 4 cr) OR
   f. BIOMG 3350 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (S, 4 cr)

   * Students who take only one semester of introductory chemistry should talk with faculty advisors and biochemistry instructors as early as possible to determine which biochemistry course is best for them and how they may access resources for the best chance of success.

6. **Global & Public Health Core Courses (14 credits)**
   - NS 1600 Introduction to Public Health (F, 3 cr)
   - NS 2060 Preparation for Engaged Learning (F, 2 cr)
   - NS 2600 Introduction to Global Health (S, 3 cr)
   - NS 3600 Epidemiology (F, 3 cr)
   - NS 4600 Explorations in Global and Public Health (F, 3 cr)

7. **Supervised Experiential Learning in Global & Public Health (3+ credits)**
   Pre-approval required. May be completed anytime from spring semester sophomore year onward. Must be largely completed before the fall semester of senior year.
   This experience may be obtained through one of several options, including (but not limited to):
   
   - Urban semester
   - Global Health Summer Programs
   - Cornell in Washington
   - Public Health Research and Internship
   - Cornell Cooperative Extension (Tompkins County and others)

   May require additional context-specific preparation, such as NS 2061 (individual faculty sections) or NS 4620 (Tanzania, Zambia, Dominican Republic).

8. **Social & Behavioral Health Selective (3-4 credits)**
   Choose one course from the following options:
   
   - NS 2450 Social Science Perspectives on Food and Nutrition (F, 3 cr)
   - ANTHR 2021, BSOC // FGSS // LGBT // STS 2841 Viruses–Humans–Viral Politics (Social History and Cultural Politics of HIV & AIDS) (S, 4 cr)
   - ANTHR 2468 Medicine, Culture, and Society (S, 3 cr)
   - COMM 4760 Population Health Communication (S, 3 cr)
   - DSOC // LSP 2200 Sociology of Health and Ethnic Minorities (F, 3 cr)
   - DSOC 3020 Political Ecologies of Health (S, 3 cr)
   - HD 3570 // SOC 3670 Social Inequalities in Physical and Mental Health (F, 3 cr)
   - PAM 3280 // DSOC 3280 Fundamentals of Population Health (F, 3 cr)
   - PAM 4280 // ECON 3710 The Economics of Risky Health Behaviors (S, 3 cr)
   - SOC 3160 Social Context and Health (S, 4 cr)

9. **Biological Aspects of Public Health Selective (3-4 credits)**
   Choose one course from the following options:
   
   - NS 3030 Nutrition, Health and Vegetarian Diets (S, 3 cr)
   - NS 3060 Nutrition and Global Health (odd F, 3 cr)
   - NS 3150 Obesity and the Regulation of Body Weight (even S, 3 cr)
   - NS 4410 Nutrition and Disease (F, 4 cr)
   - BIOMG 4390 Molecular Basis of Disease (S, 3 cr)
   - BIOMG 4870 Human Genomics (F, 3 cr)
   - BIOMI 2600 Microbiology of Human Contagious Diseases (S, 3 cr)
   - BIOMI 3210 Human Microbes and Health (F, 3 cr)

10. **Environmental Health Selective (3-4 credits)**
    Choose one course from the following options:
    
    - DEA 2700 Healthy Places: Design, Planning and Public Health (F, 3 cr)
    - DSOC 3020 Political Ecologies of Health (S, 3 cr)
    - DSOC 3400 Agriculture, Food Systems and Society (F, 3 cr)
11. Health Policy & Practice Selective (3-4 credits)
Choose one course from the following options:

- NS 4500 Public Health Nutrition (S, 3 cr)
- NS 4570 // ECON 3910 Health, Poverty and Inequality (even F, 3 cr)
- NS 4800 Implementation and Impact in Global and Public Health (S, 4 cr; restricted to students in the Cornell in Washington program)
- AMST // GOVT 2225, DSOC // ILROB // PAM 1950 Controversies about Inequality (F, 4 cr)
- ANTHR // EDUC // FGSS 4458 Women, Girls and Gender in Education (F, 4 cr)
- CRP 3430 Affordable Housing Policy and Programs (F, 3 cr)
- DSOC 2050 International Development (S, 3-4 cr)
- DSOC 2090, PAM // SOC 2208 Social Inequality (S/Summer, 4 cr)
- DSOC 3020 Political Ecologies of Health (S, 3 cr)
- DSOC 3700 // SOC 3710 Comparative Social Inequalities (S, 3 cr)
- DSOC 4230 Gender and Health: Concepts, Data, Theories and Evidence (F, 3 cr)
- ECON 3740 // PAM 4140 Global Health Economics and Policy (F, 3 cr)
- GOVT 3032 Politics of Public Policy in the U.S. (S, 4 cr)
- PAM 2030 Population and Public Policy (S, 3-4 cr)
- PAM 2350 The US Health Care System (F, 3 cr)
- PAM 3110 Pharmaceutical Management and Policy (F, 3 cr)
- PAM // SOC 3370 Race and Public Policy (F, 3 cr)
- PAM 3780 Sick Around the World? Comparing Health Care Systems Around the World (S, 3 cr)
- PAM 3870 // 5870 Economic Evaluations in Health Care (S, 3 cr)
- PAM 4370 // ECON 3720 Economics of Health Care Markets (F, 3 cr)

12. First Year Writing Seminars (6 credits)
Note: The 2 required first year writing seminar courses must be completed during the first two semesters at Cornell.

13. Social Sciences (6 credits)
Choose one course in any two of the following four areas:

- Anthropology
  ANTHR 1400 The Comparison of Cultures (F, 3 cr)

- Economics
  ECON 1110 Introductory Microeconomics (F/S/Su/Wi, 3 cr) *Counts for Human Ecology credit
  ECON 1120 Introductory Macroeconomics (F/S/Su/Wi, 3 cr) *Does not count for Human Ecology credit

- Psychology
  HD 1150 Human Development: Infancy and Childhood (F, 3 cr)
  HD 1170 Adolescence and Emerging Adulthood (S, 3 cr)
  PSYCH 1101 Introduction to Psychology (F/Su, 3 cr)

- Sociology
  DSOC 1101 Introduction to Sociology (F/S, 3 cr)
  SOC 1101 Introduction to Sociology (F/S/Su, 3 cr)

14. Humanities (3-4 credits)
Choose any course with the Course Distribution HA, LA, or CA.

15. Statistics (3-4 credits)
STSCI 2150 Introductory Statistics for Biology (F/S, 4 cr)
* Must be taken at Cornell; AP Statistics is not accepted.
16. Additional Requirements  (10-12 credits)
Any course with the Course Distribution PBS, SBA, KCM, MQR, LA, CA, or HA. Language courses may count here.
For example, students interested in pre-health tracks (e.g. medicine or physical therapy) could fulfill this requirement by taking required pre-health courses such as CHEM 2080 General Chemistry II, organic chemistry lab, and two-course sequences in organic chemistry and physics.

17. Electives  (Variable)
Any courses that are not taken in Areas 1-16 above, count as Electives.

18. Physical Education Requirement  (2 courses)
Physical Education must be completed in order to graduate. However, physical education does not count toward college and university minimum credit requirements for full-time status, nor does it count towards the 120 credits required for graduation.

19. Swim Test Requirement
A successful swim test must be completed in order to graduate.

College Polices:

- **120 Overall Credits**
  - Students must complete 120 credits toward graduation.
  - A maximum of 15 credits of AP credit and in absentia credit can count towards the 120 total credits.
  - 15 credits of Study Abroad/Exchange, Cornell-In-Washington, or Capital semester can count towards total electives.
  - A course can only count towards the 120 total credits required once.
  - Students who exceed the above parameters—i.e., by taking more than 15 credits in cases (a), (b), and (c), or taking a course more than once—will have their total required credits increase by the same amount, and all credits will be counted toward their GPA. For example, a student who takes a 3-credit course twice to improve their grade will then be required to complete 123 total credits, and will have both grades factored into their GPA.

- **55 CALS Credits**
  - Students must complete a minimum of 55 CALS credits.

- **9 CALS Credits outside the major**
  - Students must complete a minimum of 9 CALS credits outside of NS. These credits are given for any CALS course other than NS courses or those cross-listed with NS courses. These can be taken S/U only if the course is NOT used to fulfill a curriculum requirement.

- **Pass/Fail Courses [S/U]**
  - S/U grading option may NOT be used for any required course [Areas 1-14] unless it is the only grade option offered for those courses.
  - S/Us MAY be used for the 9 HE Credits outside the major and for electives in Area 15.
  - Students may apply no more than 12 credits of S/U towards graduation requirements. If a required course is only offered S/U, it will not count towards this limit. Students may take more S/Us if they choose, but the additional credit will not be applied towards graduation.
  - The deadline for changing grade options is the 57th calendar day of the semester, the same as the “drop” deadline.

- **Special Study Courses [4000, 4010, 4020, 4030]**
  - A maximum of 12 credits of special study course work from Human Ecology or other colleges will count towards the 120 overall credits (e.g. DNS special studies course work includes NS 4000, 4010, 4020, and 4030). Courses will be indicated on the class roster with a Component of either IND or RSC. [Additional credits can be taken but will not be applied.]
  - A maximum of 12 credits of 4000-4030 may count toward the 43 HE credit requirement.
  - A maximum of 3 credits of 4000-4020 (not including 4030) may count towards the 9 credits outside the major requirement as long as the special study is in a department outside the student’s major.
  - Students cannot TA (4030) the same course for credit more than once or take and TA the same course simultaneously. 4030 does not fulfill any requirements towards the major. Registration for 4030 may not exceed 5 credit hours per semester.
  - Students who wish to take NS Special Studies Courses must have taken and passed at least 2 S/U credits of the same course.
Sample Schedules for Global and Public Health Sciences Majors (CHE or CALS)

1. Sample schedules are meant only as a guide, representing one of many ways to complete the GPHS major, and are not an adequate substitute for meeting with faculty advisor(s) and making a personal plan. Most major and college requirements can be met with multiple options that should be considered in light of an individual student’s College, interests, professional goals, and other schedule constraints.

2. Students must complete an overall average of 15 credits per semester to graduate with the required 120. As a result, the courses listed in each semester do not necessarily represent the student’s actual full semester load—particularly in later semesters, as the variability in students’ remaining requirements and electives increases.

**“BASELINE” SCHEDULE**

(i.e., not pre-health or dietetics, no plans to study abroad or do within-year ELO)

### FRESHMAN YEAR

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<tr>
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### SUMMER AFTER JUNIOR YEAR: Experiential Learning Opportunity

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***plus remaining College (CALS/CHE) or general elective credits, according to needs and interests***
**PRE-HEALTH (or possibility of pre-health)**
(not dietetics, no plans to study abroad or do within-year ELO)

*** It is very important that students pursuing or considering a pre-health track speak with a pre-health advisor either within their College or through University Career Services. See The Pre-Health Track as a DNS Undergraduate for more information. ***

### FRESHMAN YEAR

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<td>2) CHEM 2070 Introductory Chemistry I (4 cr)</td>
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<td>3) Introductory biology lecture [e.g. BIOG 1440] (3 cr)</td>
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<tr>
<td>5) Humanities &amp; Social Sciences course [see College-level specifications; psychology or sociology recommended for pre-health]</td>
<td>5) Freshman Writing Seminar (<strong>required freshman spring</strong>) (3 cr)</td>
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### SOPHOMORE YEAR

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<tr>
<td>1) NS 1150 Nutrition, Health, and Society (3 cr)</td>
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<tr>
<td>2) NS 2060 Preparation for Engaged Learning (2 cr)</td>
<td>2) CHEM 2510 Introduction to Experimental Organic Chemistry (2 cr)</td>
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<tr>
<td>3) CHEM 3570 Organic Chemistry for the Life Sciences I (3 cr)</td>
<td>3) BIOMI 2900 General Microbiology Lectures OR other elective biology course, if desired (3-4 cr)</td>
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<td>3) NS 3420 Anatomy and Physiology Lab (2 cr)</td>
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<tr>
<td>4) PHYS 1101 Fundamentals of Physics I (4 cr)</td>
<td>4) PHYS 1102 Fundamentals of Physics II (4 cr)</td>
</tr>
<tr>
<td>5) BIOMG 2800 Lectures in Genetics and Genomics (<strong>recommended for pre-health</strong>) OR other elective biology course, if desired (3 cr)</td>
<td>5) Humanities &amp; Social Sciences course [see College-level specifications]</td>
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### SUMMER AFTER JUNIOR YEAR: Experiential Learning Opportunity

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***plus remaining College (CALS/CHE) or general elective credits, according to needs and interests***
**within-year EXPERIENTIAL LEARNING OPPORTUNITY / STUDY ABROAD**
(not pre-health or dietetics)

**NOTE:** Students interested in spending a semester away from Cornell should meet with a Study Abroad advisor within their College as well as formulate a course plan for graduation as soon as possible. Students who spend a semester away from Cornell need to take 2-3 more credits per semester on average than students spending 8 semesters at Cornell to credit requirements for graduation.

### FRESHMAN YEAR

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<td>2) Introductory biology lecture [e.g. BIOG 1440 or BIOMG 1350] (3 cr)</td>
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<td>3) BIOG 1500 Investigative Lab (2 cr), if not completed, <strong>OR</strong></td>
<td>3) GPHS selective</td>
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<td><strong>ELO // STUDY ABROAD SEMESTER</strong></td>
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<td>3) GPHS selective</td>
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***plus remaining College (CALS/CHE) or general elective credits, according to needs and interests***
**DIETETICS**
(not pre-health, no plans to study abroad or do within-year ELO)

***It is very important that students speak with Dr. Pam Shapiro to be sure to meet all dietetics requirements on time and in the right sequence. See The Didactic Program in Dietetics for more information.***

**FRESHMAN YEAR**

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<tr>
<td>1) NS 1150 Nutrition and Health (3 cr)</td>
<td>1) NS 1220 Nutrition and the Life Cycle (3 cr)</td>
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<tr>
<td>2) NS 1600 Introduction to Public Health (3 cr, required fall of freshman year)</td>
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<td>1) CHEM 1570 Introduction to Organic and Biological Chemistry (3 cr)</td>
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<tr>
<td>2) NS 2450 Social Science Perspective on Food and Nutrition (F, 3 cr)</td>
<td>2) CHEM 2510 Introduction to Experimental Organic Chemistry (2 cr)</td>
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<tr>
<td>3) NS 2470 Food for Contemporary Living (2 cr)</td>
<td>3) BIOM 2900 General Microbiology Lectures (3-4 cr)</td>
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<td>4) Introductory biology lecture [e.g. BIOD 1440 or BIOMG 1350] (3 cr)</td>
<td>4) HADM 1360 Introduction to Foodservice Management (3 cr)</td>
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<td>5) Psychology [e.g. PSYCH 1101 Introduction to Psychology] (3 cr)</td>
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<td>3) NS 3610 Hot Topics in Global and Public Health (1 cr)</td>
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<tr>
<td>4) NS 3450 Introduction to Physiochemical and Biological Aspects of Foods (3 cr)</td>
<td>4) GPHS selective (from remaining categories)</td>
</tr>
<tr>
<td>5) GPHS selective (Social &amp; Behavioral Health, Environmental Health, or Health Policy &amp; Management; Biological Aspects of Health fulfilled by NS 4410)</td>
<td>5) Humanities &amp; Social Sciences course (see College-level specifications)</td>
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**SUMMER AFTER JUNIOR YEAR: Experiential Learning Opportunity**

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<tr>
<td>1) NS 3320 Methods in Nutritional Science (3 cr)</td>
<td>1) NS 4250 Nutrition Communications and Counseling (3 cr)</td>
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<tr>
<td>2) NS 4410 Nutrition and Disease (4 cr)</td>
<td>2) NS 4880 Applied Dietetics in Food Service Systems (4 cr)</td>
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<tr>
<td>3) NS 4420 Implementation of Nutrition Care (3 cr)</td>
<td>3) Humanities &amp; Social Sciences course(s), if needed (see College-level specifications)</td>
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<td>4) NS 4600 Explorations in Global and Public Health (3 cr)</td>
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**plus remaining College (CALS/CHE) or general elective credits, according to needs and interests***
Requirements for the Human Nutrition concentration in the Biological Sciences major

CALS or the College of Arts and Sciences 2018-2019

Human Nutrition is one of many concentrations available to Biological Sciences majors at Cornell. For information about the requirements of the Biological Sciences major and other concentrations, see the Biological Sciences Major Requirements page (https://biology.cornell.edu/academics/major) and/or contact the Office of Undergraduate Biology (216 Stimson Hall, bioadvising@cornell.edu). The information on this page pertains only to the requirements of the Human Nutrition concentration.

1. **Core Course** (4 credits)
   - NS 3310 Human Nutrition and Nutrient Metabolism (S, 4 cr)

2. **Electives** (9+ credits)
   Choose at least 9 credits from courses on the following list:

   - NS 2750 Human Biology and Evolution (F, 3 cr)
   - NS 3030 Nutrition, Health and Vegetarian Diets (S, 3 cr)
   - NS 3060 Nutrition and Global Health (odd F, 3 cr)
   - NS 3150 Obesity and the Regulation of Body Weight (even S, 3 cr; enrollment restricted – priority to Dietetics students)
   - NS 3220 Maternal and Child Nutrition (odd S, 3 cr; enrollment restricted – priority to Dietetics students)
   - NS 3320 Methods in Nutritional Sciences (F, 3 cr; enrollment restricted – priority to NS majors and Dietetics students)
   - NS 3410 Human Anatomy and Physiology (S, 4 cr)
   - NS 3420 Human Anatomy and Physiology Lab (S, 2 cr)
   - NS 3450 Introduction to Physiochemical and Biological Aspects of Foods (F, 3 cr)
   - NS 4410 Nutrition and Disease (F, 4 cr)
   - NS 6110 Molecular Toxicology (S, 3 cr)
   - NS 6140 Topics in Maternal and Child Nutrition (F, 3 cr)
   - NS 6310 Micronutrients: Function, Homeostasis and Assessment (F, 2-4 cr)
   - NS 6320 Regulation of Macronutrient Metabolism (S, 4 cr)

**IMPORTANT NOTES:**
- Only courses on the list above may be used toward the Human Nutrition concentration.
- For CALS students, credits in NS courses count towards the required 55 CALS credits.
- For Arts and Sciences students, NS credits count towards the 100 hours required in A&S if those credits fulfill major requirements.
- Independent study credits may **not** be used toward the 13 credit minimum for the Human Nutrition concentration.
The Pre-Health Track as a DNS undergraduate

Students considering applying to school for medicine, physical therapy, dentistry, physical assistantship, nursing, or other advanced medical training need a more rigorous background in chemistry and biological sciences. These pages describe important information for DNS students in or considering a pre-health track, including Required, Recommended, or Valuable Courses, how to Register as a Pre-Health Student, considerations for Transfer Students, and Getting Pre-Health Experience, as well as information about other opportunities for getting pre-health experience. This information is not a substitute for meeting with a pre-health advisor as soon as possible.


<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>CORNELL COURSES</th>
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<tbody>
<tr>
<td>Biology</td>
<td><strong>Option 1</strong></td>
</tr>
<tr>
<td></td>
<td>• BION 1500 Investigative Biology Laboratory (F/S, 2 cr) AND</td>
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<tr>
<td></td>
<td>• BIOMG 1350 Introductory Biology: Cell and Developmental Biology (F/S, 3 cr) AND</td>
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<tr>
<td></td>
<td>• [BIOG 1440 Introductory Biology (F/S, 3 cr) OR BION 1445 Comparative Physiology (F/S, 3 cr)]</td>
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<tr>
<td></td>
<td>* BION 1445 is a personalized instruction alternative format with an abbreviated lab component; BION 1440 has no lab.</td>
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<tr>
<td></td>
<td><strong>Option 2</strong></td>
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<tr>
<td></td>
<td>• BION 1500 Investigative Biology Laboratory AND</td>
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<tr>
<td></td>
<td>• BION 1107 Introductory Biology I: From Atom to Cell (Summer, 3 cr) AND</td>
</tr>
<tr>
<td></td>
<td>• BION 1108 Introductory Biology II: From Cell to Biosphere (Summer, 3 cr)</td>
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<tr>
<td>Biochemistry</td>
<td><strong>One of the following:</strong></td>
</tr>
<tr>
<td></td>
<td>1. NS 3200 Introduction to Human Biochemistry (F, 4 cr) OR</td>
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<td></td>
<td>2. BIOMG 3310 Principles of Biochemistry: Proteins and Metabolism (F, 3 cr) AND BIOMG 3320 Principles of Biochemistry: Molecular Biology (S, 2 cr) OR</td>
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<td></td>
<td>3. BIOMG 3300 Biochemistry, Individualized Instruction (F/S, 4 cr) OR</td>
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<tr>
<td></td>
<td>4. BIOMG 3350 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (S, 4 cr) OR</td>
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<tr>
<td></td>
<td>5. BIOMG 3330 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (Summer, 4 cr)</td>
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<tr>
<td>Physiology</td>
<td>• Anatomy/physiology lecture (e.g. NS 3410; S, 4 cr) AND</td>
</tr>
<tr>
<td></td>
<td>• Anatomy/physiology laboratory (e.g. NS 3420; S, 2 cr) <em>(not required, but recommended for some pre-health tracks; consult with a pre-health advisor for more information)</em></td>
</tr>
<tr>
<td>Biology (not required, but recommended)</td>
<td>Further courses in areas of interest, such as:</td>
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<tr>
<td></td>
<td>• Genetics <em>(strongly recommended, e.g. BIOMG 2800 or 2810)</em></td>
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<td></td>
<td>• Microbiology <em>(e.g. BIOMI 2900 or VETMI 4310)</em></td>
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<td>• Neurobiology <em>(e.g. BIONG 2210, 2220, or 4280)</em></td>
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<td></td>
<td>• Cell Biology <em>(e.g. BIOMG 4320)</em></td>
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<tr>
<td></td>
<td>• Physiology <em>(beyond requirements, e.g. BIOAP 3110)</em></td>
</tr>
<tr>
<td></td>
<td>• Biochemistry <em>(beyond requirements)</em></td>
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<td></td>
<td>• Evolution <em>(e.g. NS 2750 or BIOEE 1780)</em></td>
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<td>• Ecology <em>(e.g. BIOEE 1610 Introductory Biology: Ecology and the Environment)</em></td>
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<tr>
<td></td>
<td>• Nutrition <em>(e.g. NS 3030, 3220, 3310, 4310, or 4410)</em></td>
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<tr>
<td>General Chemistry</td>
<td>• Two semesters introductory chemistry (e.g. CHEM 2070-2080, held as a fall-spring pair) with labs</td>
</tr>
<tr>
<td>Organic Chemistry</td>
<td>• Two semesters organic chemistry (e.g. CHEM 3570-3580 or CHEM 3590-3600) AND</td>
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<tr>
<td></td>
<td>• Organic chemistry lab (e.g. CHEM 2510; F/S/Summer, 2 cr)</td>
</tr>
<tr>
<td>English</td>
<td>The two-semester First-year Writing Seminar sequence usually satisfies this. For rare exceptions, see the Medical School Admissions Requirements (MSAR) Guide.</td>
</tr>
<tr>
<td>Math</td>
<td>One semester each of calculus and statistics.</td>
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<tr>
<td>General Physics</td>
<td>Two semesters physics (crossovers acceptable with consult with Physics dept), such as:</td>
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<tr>
<td></td>
<td>• PHYS 1101-1102 <em>(individualized instruction, not calculus-based)</em> OR</td>
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<tr>
<td></td>
<td>• PHYS 2207-2208 <em>(calculus-based)</em> OR</td>
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<tr>
<td></td>
<td>• PHYS 1112-2208 <em>(calculus-based)</em></td>
</tr>
<tr>
<td>Social Science</td>
<td>One semester, preferably Psychology or Sociology. Consult with a pre-health advisor to find a relevant course.</td>
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</tbody>
</table>
Other Potentially Valuable Courses

In addition to the required and recommended courses listed on the previous page, a number of other Cornell courses may be valuable to pre-health students in DNS, depending on personal interests. Some of these classes are listed below in alphabetical (not value) order.

ANTHR 2468 Medicine, Culture, and Society
BIOMI 2500 Public Health Microbiology
BIOMI 2900 General Microbiology
BIOMI // BIOMS 4310 Medical Parasitology
BIONB 4270 Darwinian Medicine
BSOC 4411 Philosophy of Medicine
COMM 2850 // STS 2851 Communication, Environment, Science, and Health
DSOC // LSP 2200 Sociology of Health and Ethnic Minorities
DSOC 3111 // BSOC 3111 // SOC 3130 // STS 3111 Sociology of Medicine
ENTOM 2100 Plagues and Peasople
ENTOM // TOX 3070 Pesticides, the Environment, and Human Health
HD 2180 Human Development: Adulthood and Aging
FDSC 4220 Fundamental Foods and Dietary Supplements for Health
HD 1150 Human Development: Infancy and Childhood
FSAD 4390 Biomedical Materials and Devices for Human Body Repair
HD 1170 Human Development: Adolescence and Emerging Adulthood
HD 2180 Human Development: Adulthood and Aging
HD 2200 The Human Brain and Mind: Biological Issues in Human Development
HD // SOC 2510 Social Gerontology: Aging and the Life Course
HD 3300 Developmental Psychology
HD 3250 Neurochemistry of Human Behavior
HD 3570 // SOC 3670 Social Inequalities in Physical and Mental Health
HD 3660 Affective and Social Neuroscience
HD 3700 // PSYCH 32510 Adult Psychopathology
HD 3250 Neurochemistry of Human Behavior
HD // SOC 4570 Health and Social Behavior
HD 4590 Life Transitions Across the Life Span
NS 3150 Obesity and the Regulation of Body Weight
NS 3600 Epidemiology
NS 3310 Human Nutrition and Nutrient Metabolism (helpful for the MCAT, fundamental nutrition knowledge useful to non-nutrition majors)
NS 4250 Nutrition Communications & Counseling
NS 4500 Public Health Nutrition
PAM // DSOC 3280 Fundamentals of Population Health
PAM 2350 The U.S. Healthcare System
PAM 3110 Pharmaceutical Management and Policy
PAM 3780 Sick Around the World? Comparing Health Care Systems Around the World
PAM 4050 Reproductive Health Policy
PAM 4280 // ECON 3710 The Economics of Risky Health Behaviors
PAM 4370 // ECON 3720 The Economics of Health Care Markets
PLPPM 2950 Biology of Infectious Disease: From Molecules to Ecosystems
AND courses in languages, oral communications, and culture and religion

Register as a Pre-Health Student

The Health Career Evaluation Committee (HCEC) at Cornell provides a letter of evaluation (not a letter of recommendation) that is part of most pre-health students’ applications to health professional schools (i.e., schools of allopathic and osteopathic medicine, dentistry, optometry, and podiatry). HCEC prepares the letter of evaluation and appends the student’s letters of recommendation to it. Cornell students usually register with the HCEC early in the spring semester of their junior year. Students those who plan to apply to after their senior year usually wait until spring semester of their senior year to register. More information about the HCEC and its processes can be found on the Cornell HCEC home page (http://www.career.cornell.edu/paths/health/medschool/hcec/).

Considerations for Transfer Students

According to the Health Career Evaluation Committee (HCEC) at Cornell HCEC:

Transfer students with less than 30 letter-graded credit hours in Cornell courses should register at the usual time and submit transcript(s) from other institution(s) to the HCEC. [The HCEC will obtain a copy of your Cornell transcript.] However, an interviewer will be assigned only after thirty credit hours at Cornell have been completed and all non-Cornell transcripts have been received. For juniors who have completed two
semesters with less than 30 credits, the options include: 1) taking a Cornell course during the 3-week summer session in late May - June, 2) getting a letter from your previous institution, or 3) waiting until your senior year to register with the HCEC and apply to medical school. Interviews for transfer students are typically conducted during the late spring, in Ithaca, at the convenience of the interviewer. Transfer students may contact the HCEC via email to determine eligibility and deadlines.”

Transfer students considering the pre-health track at Cornell should see a pre-health advisor to discuss:

1. the pros and cons of using Cornell's HCEC or of using the committee at your previous institution
2. suitable sources of letters of recommendation and supplementary letters
3. issues to consider in deciding the optimum time to apply
4. procedures for postponing your interview when you have completed your semester credit hours
5. proceeding with an HCEC Letter without an HCEC interview

Getting pre-health experience

Coursework is not the only important part of preparing for a career in medicine and health. There are many other activities and resources that will help you to decide whether a career in medicine is right for you, assess what type of career in medicine interests you, and gain early insight into the skills and thought processes involved in a career in medicine and health. Some of these are described briefly below, and students can also search among a wide range of opportunities at https://experience.cornell.edu/.

CU Alumni Connections Program
Students can apply to the CU Alumni Connections Program to shadow a Cornell alum in one of the health professions. Find more information at http://www.career.cornell.edu/students/options/ACP/index.cfm.

Field Experience in Your Major
Field experience in your major can provide unique opportunities for your education and personal professional growth. More information about getting this field experience—and getting credit for that experience, most likely through NS 4020 Supervised Fieldwork—can be found within the Supervised Field Work section of the Survival Guide.

Research
Undergraduates can participate in research for credit (see Undergraduate Research for more information), as a volunteer, or through the DNS Honors Program (see The DNS Honors Program for more information). Participating in research and working closely with a faculty member can help you decide how interested you are in the research aspects of nutrition and medicine.

Urban Summer
Students may spend a summer (usually after sophomore or junior year) in New York City gaining experience in health care fields. Find more information at https://www.human.cornell.edu/academics/offcampus/urbansemester/home.

Student Volunteer Opportunities
Information about how to find volunteer opportunities at Cornell, in Ithaca, and in your hometown can be found at http://www.career.cornell.edu/paths/health/experience/volunteer/index.cfm.

A wide range of volunteer opportunities based on Cornell campus, including the Pre-Medical Community Mentorship Program (described below), can be found at http://www.career.cornell.edu/paths/health/experience/volunteer/campus.cfm.

The Pre-Medical Community Mentorship Program gives selected Cornell students the opportunity to observe up close some of the realities of the medical profession. Spending two half days shadowing a Tompkins County physician, students are connected with a mentor who can answer questions about opportunities in the diverse field of medicine and preparation for a medical career. This program is offered for Cornell undergraduates seriously considering a career in medicine. Call (607) 255-4782 to find out more.

Summer Experience
Volunteer to help health care providers and community support programs in your neighborhood or hometown.
The Didactic Program in Dietetics (DPD)
Available to all Cornell undergraduates

For more information regarding dietetics or the requirements and procedures of the DPD, please see the program website (https://www.human.cornell.edu/dns/academics/undergraduate/dpd) or contact the DPD Director, Dr. Pamela Shapiro (prw2@cornell.edu, 114 Savage Hall).

An Introduction to Dietetics

Job markets demand—and many states require—that anyone who advises others about nutrition or diet must be a registered dietitian nutritionist (RD/RDN). In addition, academic training and work experience in dietetics opens doors to advancement in many directions, including management positions and not-for-profit organizations, consulting or counseling practices, and opportunities to combine dietetics with other health care specialties. For pre-health students, completing the dietetics program provides valuable preparation in health, disease and clinical nutrition for practicing medicine and other careers in healthcare.

Careers in Dietetics

Dietitians can work in many fields and settings, and some dietitians practice in highly specialized areas. Some potential career paths for RD/RDNs include:

- Clinical Nutrition
- Sports Nutrition
- Child Nutrition
- Medicine
- Dietetics Education
- Public Health Nutrition
- Community Nutrition
- Food and Nutrition Management
- Nutrition Counseling
- Dietetics Research
- Corporate Wellness
- Retail Nutrition

In addition, there is an increased demand for dietitians with expertise in several areas, including:
- community settings such as in programs that promote maternal and child health, adult fitness and wellness, and diabetes education
- the management of complex health conditions and diseases such as cancer, AIDS, newborn intensive care, eating disorders, burns, and diabetes.
- private industry such as food manufacturers, grocery stores, food service corporations, restaurants, software companies, health clubs, and print and broadcast media.

For examples of current job opportunities in dietetics see Jobs in Dietetics, a job list service for nutrition and dietetic professionals at www.healthecareers.com and http://www.eatrightpro.org/resources/career/become-an-rdn-or-dtr.

Deciding if Dietetics is Right for You

It is strongly recommended that DNS students consider applying to the Didactic Program in Dietetics (DPD). Many employment opportunities related to nutrition require or strongly prefer an RD/RDN credential. In particular, students should consider pursuing the RD/RDN credential if they are interested in:

- nutrition and health care
- counseling and/or educating individuals and groups to improve diet and health, including working as sports dietitians and in private practice settings
- nutrition knowledge with the culinary arts and students interested in large scale food service operations
- teaching in academic settings
- enhancing their graduate degrees
Becoming a Registered Dietitian

The Academy of Nutrition and Dietetics is the largest professional organization for dietetics professionals and sets the standards for dietetics education through the Accreditation Council for Education in Nutrition and Dietetics (ACEND) and for credentialing as a registered dietitian nutritionist through the Commission on Dietetic Registration (CDR). To become a registered dietitian nutritionist, you must:

1. Earn a bachelor’s degree*
2. Complete the required courses of an academic program that is accredited by ACEND (such as the Didactic Program in Dietetics in DNS)
3. Complete an ACEND-accredited supervised practice program (see below) prior to taking the registration exam
4. Pass the national registration exam given by the CDR to earn the RD credential

* NOTE: Beginning in 2024, the degree requirement to sit for the RDN credential will move to a graduate degree. A student may earn a graduate degree before, during or after supervised practice and the graduate degree may be in any area (e.g. nutrition, management, public health, etc). Learn more at https://www.cdrnet.org/certifications/registered-dietitian-rd-certification.

Supervised practice programs, located throughout the U.S., typically range from 9-12 months in duration to provide a minimum of 1200 hours of supervised learning experience. Some programs also offer advanced degrees. Dietetic interns receive supervised experience in clinical nutrition, community nutrition, and food and nutrition service management as well as a concentration area specific to an internship.

Admission to supervised practice programs is highly competitive, with the national placement rate at approximately 50%. Admission to supervised practice programs requires prior completion of an undergraduate dietetics program as well as relevant and adequate field experience (paid or volunteer) in clinical, community, management and/or research settings. For more information about dietetics programs and supervised practice programs, see the Academy website (http://www.eatright.org) and the DNS website (https://www.human.cornell.edu/dns/academics/undergraduate/dpd).

The Didactic Program in Dietetics at Cornell

Program Content

Translating the science of nutrition into healthy food choices for individuals and groups or appropriate nutritional therapy for those with illness requires the integration of many different disciplines. The Dietetics curriculum provides a broad and integrated academic program that is strongly grounded in the physical, biological, social and behavioral sciences. The program emphasizes critical thinking, communication skills, quantitative literacy, and the application of theory to practice.

Students begin with basic courses in biology, chemistry, social sciences and introductions to food, nutrition, and health issues and nutrition and the life cycle. In their second year, Dietetics students progress to organic chemistry, physiology, and courses that examine the social and behavioral science aspects of food and nutrition as well as the nutritional and physicochemical properties of foods. Advanced courses taken in the junior and senior years apply biochemistry, physiology, social, and behavioral sciences to problems in clinical nutrition, counseling, communications, public health, and food and nutrition management. Throughout the program, students develop skills that will foster personal and professional growth as life-long learners and as leaders and team members in the dietetics profession.

The Division of Nutritional Sciences at Cornell University offers an ACEND-accredited DPD. The mission of the DPD is to prepare critically-thinking graduates ready for supervised evidence-based practice toward becoming registered dietitians and for leadership in their careers in nutrition and dietetics. Although many of the course requirements in the ACEND-accredited dietetics program are met by courses required in the NS, HBHS, and GPHS majors, there are additional requirements unique to the DPD (see DPD Requirements in this section). Approximately 15% of DNS students participate in the DPD.
Planning and Preparation

The earlier a student begins planning to complete the DPD requirements, the more freedom they may have later in their undergraduate career to select their preferred electives. Careful early planning may also enable students to study abroad or complete a minor.

Students should plan to be on track with meeting dietetics requirements so that they can apply to the DPD at the beginning of their junior year. Students pursuing dietetics education work closely with their faculty advisors and with the Dietetics Program faculty to prepare their course schedules and to acquire field experience in dietetics, and research experiences that enhance their classroom learning. Such efforts increase the likelihood of acceptance into the DPD and ultimately placement into supervised practice programs. Students should check their progress at the end of each year using the “Dietetics Pathway Flowchart” found on the DPD website.

Students should also get involved with CUDA and/or HealthNutS and make every effort to attend DPD informational meetings (typically held in the fall; refer to undergraduate dietetics website for dates). Meeting with the DPD Director is also strongly advised.

Application and Registration

Pre-Dietetics Registration. Students who are interested in completing the DPD should 1) submit a Pre-Dietetics Student Intent Form, 2) meet with the DPD Director, 3) begin taking dietetics courses, and 4) seek dietetics-related experiences prior to their application to the DPD program.

Application to the DPD. Students interested in pursuing a career as a Registered Dietitian must apply for admission into the DPD, typically at the beginning of the junior year. Admission into the DPD is a competitive and selective process with a limited number of placements. Completing DPD requirements should be an option pursued as part of a thoughtful plan by students serious in pursuing dietetics and health careers. Admissions reflect an overall competitiveness for successful placement into supervised practice and commitment to a career in dietetics and health. Selection is based on successful academic progress, committed intention to pursue a career in dietetics and health, potential for excellence or leadership in the field of dietetics and a high likelihood for successful placement into an accredited internship post-baccalaureate. Students who determine that becoming a registered dietitian nutritionist is a good fit with their professional goals after thoughtful consideration and career exploration should apply to the DPD program at Cornell. Refer to additional information regarding the application process on the DNS undergraduate dietetics website.

Application to Supervised Practice Programs. The placement rate of Cornell DPD students who apply to supervised practice programs over the past five years is, on average, 93%. The Cornell DPD placement rate is notably higher than the national placement rate of approximately 50%. However, acceptance into supervised practice programs is highly competitive. Strong applicants have the most potential for success at gaining acceptance into internship programs and exhibit the following:

- is completing DPD coursework and degree requirements with an overall GPA of 3.0 or better
- has strong letters of support (from advisors, instructors, an RD practitioner, coaches, employers, etc) to practice in the field of dietetics.
- has gained relevant and adequate dietetics related experiences through work, volunteer, lab and field experiences.
- is mature and capable of balancing the rigors of work and study during the internship experience
- has developed leadership skills through involvement with clubs, organizations, sports, work, volunteer and other extracurricular experiences and exhibits potential for excellence or leadership in the field of dietetics
- is passionate about food, nutrition and health and practicing in the field of dietetics
- is committed to pursuing a career in dietetics and health
In addition to fulfilling the requirements for a major in their College, students in any major or College at Cornell may elect to complete the ACEND-accredited academic requirements of the Didactic Program in Dietetics (DPD), which are listed below. The DPD prepares students for careers as Registered Dietitian Nutritionists. Many of these courses are required by the Nutritional Sciences major. Completion of DPD requirements is verified by the Director of the Didactic Program (Dr. Pamela Shapiro, prw2@cornell.edu, 114 Savage Hall).

**Physical and Biological Sciences**

1. **Inorganic Chemistry** (8 credits)
   CHEM 2070 and CHEM 2080 General Chemistry I and II

2. **Organic Chemistry** (5-10 credits)
   (a) Choose one of the following labs:
   (b) CHEM 2510 Introduction to Experimental Organic Chemistry (F/S/Summer, 2 cr) OR
   (c) CHEM 3010 Experimental Chemistry (S, 4 cr)
   AND one of the following lecture options:
   (a) CHEM 1570 Elementary Organic Chemistry (S only, 3 cr, *not for pre-health*) OR
   (b) CHEM 3530 Principles of Organic Chemistry (F only, 4 cr) OR
   (c) CHEM 3570-3580 Introductory Organic Chemistry (F and S, 3 cr each, must take both, CHEM 3570 alone will not fulfill the requirement)

3. **Microbiology** (3 credits)
   BIOMI 2900 General Microbiology Lecture (F/S/Summer, 3-4 cr)

4. **Introductory Biology** (8-10 credits)
   Choose one of the following labs:
   (a) BIOG 1500 Investigative Lab (F/S, 2 cr) OR
   (b) BIOSM 1500 Investigative Marine Biology Lab (Su, 3 cr)
   AND choose two out of the three following lecture options
   (a) BIOG 1350 Cell and Developmental Biology (F/S, 3 cr)
   (b) BIOG 1440 Comparative Physiology (F/S, 3 cr) OR*
       BIOG 1445 Comparative Physiology (autotutorial) (F/S, 4 cr)
   (c) BIOEE 1610 Ecology and the Environment (F/S, 3 cr) OR*
       BIOEE 1780 Evolution and Diversity (F/S, 3 cr)
   * Cannot take both to fulfill this requirement

PLEASE NOTE that, starting in 2024, candidates for the RD/RDN exam will need to have a graduate degree in addition to completing dietetics requirements to sit for the exam.
5. **Physiology** *(6 credits)*  
   NS 3410 Human Anatomy and Physiology (S, 4 cr) **AND**  
   NS 3410 Human Anatomy and Physiology Laboratory (S, 2 cr)

6. **Biochemistry** *(4-6 credits)*  
   Choose one of the following *:
   (a) NS 3200 Introduction to Human Biochemistry (F, 4 cr) **OR**  
   (b) BIOMG 3300 Principles of Biochemistry (F/S, 4 cr) **OR**  
   (c) BIOMG 3310 Principles of Biochemistry: Proteins and Metabolism (F, 3 cr) **AND** BIOMG 3320 Principles of Biochemistry: Molecular Biology (S, 2 cr) **OR**  
   (d) BIOMG 3310 Principles of Biochemistry: Proteins and Metabolism (F, 3 cr) **AND** BIOMI 2900 General Microbiology (F/S, 3 cr) **OR**  
   (e) BIOMG 3330 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (Summer, 4 cr) **OR**  
   (f) BIOMG 3350 Principles of Biochemistry: Proteins, Metabolism, and Molecular Biology (S, 4 cr)

**Behavioral Science**

7. **Psychology** *(3 credits)*  
   Choose one of the following:
   (a) HD 1150 Human Development: Infancy and Childhood (F, 3 cr) **OR**  
   (b) HD 1170 Adolescence and Emerging Adulthood (S, 3 cr) **OR**  
   (c) PSYCH 1101 Introduction to Psychology (F/Summer, 3 cr)

**Communication**

8. **Written Communication** *(6 credits)*  
   Any two courses of at least 3 credits that fulfill College-level requirements for written communication.  
   **Note:** CHE students must fulfill this requirement with 2 required first year writing seminar courses, which must be completed during the first two semesters at Cornell.

**Quantitative and Analytical**

9. **Statistics** *(3-4 credits)*  
   Choose one of the following:
   (a) STSCI 2150 Introductory Statistics for Biology (F/S, 4 cr) **OR**  
   (b) PAM 2100 Introduction to Statistics (S, 4 cr) **OR**  
   (c) AEM 2100 Introductory Statistics (F, 4 cr) **OR**  
   (d) BTRY 3010 Biological Statistics I (F, 4 cr) **OR**  
   (e) ILRST/STSCI 2100 Introductory Statistics (F/S/Winter/Summer, 4 cr) **OR**  
   (f) MATH 1710 Statistical Theory and Application in the Real World (F/S, 4 cr) **OR**  
   (g) PSYCH 3500 Statistics and Research Design (F/Summer, 3-4 cr) **OR**  
   (h) SOC 3010 Statistics for Sociological Research (F, 4 cr)

**Professional Sciences**

10. **Nutrition Core Courses** *(16 credits)*  
    NS 1150 Nutrition, Health and Society (F, 3 cr)  
    NS 2450 Social Science Perspective on Food and Nutrition (F, 3 cr)  
    NS 3450 Introduction to Physiochemical and Biological Aspects of Food (F, 3 cr)  
    NS 3310 Nutrient Metabolism (S, 4 cr)  
    NS 3320 Methods in Nutritional Sciences (F, 3 cr)

11. **Dietetic Courses** *(25 credits)*  
    NS 1220 Nutrition and the Life Cycle (S, 3 cr)  
    NS 2470 Food for Contemporary Living (F/S, 2 cr)  
    HADM 1360 Introduction to Food Service Management (F/S, 3 cr) **OR**  
    NS 4250 Nutrition Communications and Counseling (S, 3 cr)  
    NS 4410 Nutrition and Disease (F, 4 cr)  
    NS 4420 Implementation of Nutrition Care (F, 3 cr)  
    NS 4500 Public Health Nutrition **OR** NS 1600 Introduction to Public Health (F, 3 cr)  
    NS 4880 Applied Dietetics in Food Service Management (S, 4 cr)

* DPD students must sign up for HADM 1360 via an electronic form turned into Terry Mingle in the DNS Academic Affairs Office, which circulates this form and coordinates placement of DPD students in the course.
Student Intent form

Deadlines for submitting form: September 30th (FALL) and February 15th (SPRING).

As soon as you decide to complete the requirements of the DNS Didactic Program in Dietetics, please complete this form and return to B36A Kinzelberg Hall. This form may also be found on the DPD website (http://www.human.cornell.edu/dns/academics/undergraduate/dpd). Also, please schedule a meeting as soon as possible with Pamela Shapiro (prw2@cornell.edu) to discuss your plans for dietetics. If at any time you decide not to complete these requirements, please notify us. Thank you!

Student ID Number: __________________________   netID: ________   Date: _________________

Name: ___________________________________________________________________________

Current (Campus) Address: __________________________________________________________

__________________________________________________________________________

College: ___________________________    Major: _____________________________________

Expected Graduation: (circle one) fall / spring 20 _____   Faculty Advisor: ______________________

Phone #: _____________________________   Indicate any minor fields or pre-professional paths (e.g. pre-health): ___________________________________________________________________

I am aware that information about the DPD, including the program Handbook and policies, is available on the dietetics web site. I understand that students interested in completing DPD requirements will need to apply to the DPD, typically in their junior year. Students who are not accepted into the program, or choose not to apply, will no longer be identified with the “Dietetics” milestone in Cornell’s academic records system, which will affect the ability to enroll in any (NS) “dietetics-preferred” courses.

Signature _______________________________________________  Date: __________________

(Please sign. If submitting form electronically, please stop by B36A Kinzelberg Hall to sign the form at your earliest convenience.)

Are you a Transfer Student? YES     NO

IF YES: Year transferred to Cornell: ______  Transferred from (College/Dept.): ____________________________________________

FOR OFFICE USE ONLY

DPD Completion Date: ________________

Notes:
The Global Health Minor
*Available to all Cornell undergraduates except for GPHS Majors*

DNS offers an undergraduate minor in Global Health that available to all Cornell undergraduates in all Colleges and majors except for GPHS majors. The Global Health minor provides students with basic knowledge about global and public health as well as the necessary skills and experience to begin to build their own unique career path in global and public health. More information about the Global Health minor can be found at http://www.human.cornell.edu/dns/globalhealth/undergraduate/index.cfm or by contacting:

Jeanne Moseley, *Director* (jmm298@cornell.edu), 607-254-6228, Kinzelberg Hall, B36D
Jennifer DiPietro, *Global and Public Health Fellow* (jld322@cornell.edu), 607-255-8983, Kinzelberg Hall, B36

The minor is designed to achieve three educational objectives:

1) to learn more about the problems of global and public health in a classroom setting
2) to experience the issues in global and public health first-hand in a field setting
3) to gain exposure to various careers in global and public health from a diverse spectrum of graduate and medical students and faculty who focus on global and public health.

Requirements for the Global Health minor

To successfully complete the Undergraduate Minor in Global Health, students must enroll in **two** (2) Core Courses and **three** (3) Elective Courses for a total of **fifteen** (15) credits. Additionally, students are required to complete an 8-week international Experiential Learning Opportunity (**ELO**) in a resource-limited environment. These requirements must be as follows:

1. **Take the first required core course**, NS 2600 Introduction to Global Health (F, 3 cr), to gain a basic understanding of global health and to prepare you for additional coursework and the ELO. NS 2600 Introduction to Global Health **must** be completed prior to completing the ELO.
2. **Begin to complete elective coursework** (described further below). It is recommended (but not required) to begin Elective Coursework prior to completing NS 4600 Explorations in Global and Public Health.
3. **Meet with** the Global Health Program Director or Fellow to discuss your intended ELO.
   a. **If you apply and are accepted to participate in a Global Health Summer Program**, you are required to enroll in NS 4620: Global Service Learning Pre-Departure Seminar (1-2 cr) during the Spring semester prior to the Field Experience.
   b. **If you elect to participate in an Independent ELO**, you are required to attend one Health & Safety Seminar, one Ethics, Culture & Diversity Seminar, and one NS 4600 Preparatory Seminar the Spring semester prior to the Field Experience.
4. **Complete an 8-week (minimum) Experiential Learning Opportunity** in which you live and work abroad on a health-related placement in a resource-limited setting.
5. **Take the second required Core Course**, NS 4600 Explorations in Global and Public Health (F, 3 cr). This course must be taken the Fall semester immediately following the completion of your ELO (junior or senior year).

**Elective Coursework**

Students are required to take and successfully complete the three Elective Courses. These courses must be distributed across three (3) of the five (5) Elective Course categories:

I. Biomedical & Epidemiological Approaches to Global Health
II. Social & Ethical Approaches to Global Health
III. Political, Economic, & Food Systems Approaches to Global Health
IV. Health Systems & Programmatic Approaches to Global Health
V. Area-Specific Studies (Petition Only)
A description of each of these categories and the courses in each category is below. The most updated, complete list of elective options can be found on the Global Health minor website: (http://www.human.cornell.edu/dns/globalhealth/undergraduate/index.cfm).

I. Biomedical & Epidemiological Approaches to Global Health
Includes courses encompassing a “hard science” approach to the study of disease and epidemiology. Examines both communicable and parasitic vectors that commonly occur in resource-poor contexts as well as the nutritional and environmental factors that relate to increasingly prevalent non-communicable diseases.

**FALL**
- BIOMI 2500 Public Health Microbiology (F, 3 cr)
- BIOMI 3210 Human Microbes and Health (F, 3 cr)
- BIOMI // BIOMS 4090 Principles of Virology (F, 3 cr)
- BIOMI // BIOMS 4310 Medical Parasitology (F, 2 cr)
- PLBRG 4070 Nutritional Quality Improvement of Food Crops (F, 2 cr) *(previously BIOPL)*
- ENTOM 2100 Plagues and People (2-3 cr)
- ENTOM 3520 Medical and Veterinary Entomology (odd F, 3 cr)
- NS 3060 Nutrition and Global Health (odd F, 3 cr)
- NS 3220 Maternal and Child Nutrition (odd S, 3 cr)
- NS 3600 Epidemiology (F, 3 cr)
- NS 4410 Nutrition and Disease (F, 4 cr)
- PLPPM 2950 Biology of Infectious Disease: From Molecules to Ecosystems (F, 3 cr) *(previously PLPA)*

**SPRING**
- BIOMI 2600 Microbiology of Human Contagious Diseases (S, 3 cr)
- BIOMI // BIOMS 4040 Pathogenic Bacteriology (S, 2-3 cr)
- BIOMS 4340 Cellular and Molecular Microbial Pathogenesis: The Host/Pathogen Interplay (odd S, 3 cr)
- FDSC 4220 Functional Foods and Dietary Supplements for Health (S, 2 cr)
- NS // PSYCH 3150 Obesity and the Regulation of Body Weight (alt even S/Summer, 3 cr)

II. Social & Ethical Approaches to Global Health
Includes courses that examine cultural and social issues affecting the health of global populations and that form a foundation upon which students can build effective policies and frameworks tailored to a population. Courses in this category examine the health of macro- and micro-communities as well as the relationships among ethics, human rights, and health in different communities and contexts.

**FALL**
- AMST 3141 Prisons
- ANTHR // FGSS // LGBT 2421 Sex and Gender in Cross-Cultural Perspective (F, 3 cr)
- ANTHR // BSOC // STS 3465 Anthropology of the Body (F, 4 cr)
- ANTHR // BSOC 3620 // FGSS 3621 A Global Controversy: How to Study a Human Rights Violation (F, 4 cr)
- BSOC // STS 2051 Ethical Issues in Health and Medicine (F, 4 cr)
- CRP 3011 Ethics, Development, and Globalization (alt F/S)
- DSOC 2010 // SOC 2202 Population Dynamics (F, 3 cr)
- DSOC 2200 Sociology of Health of Ethnic Minorities (F, 3 cr)
- DSOC 4230 Gender and Health: Concepts, Data, Theories and Evidence
- DSOC 4380 Population and Development (F, 3 cr)
- EDUC 2610 The Intergroup Dialogue Project
- HD // SOC 3570 Social Inequalities in Physical and Mental Health (F, 3 cr)
- NS 3610 Hot Topics in Global and Public Health (F, 1 cr)
- NS 4420 Implementation of Nutrition Care
- PAM 3180 Health Disparities
- PAM 3280 Fundamentals of Population Health (F, 3 cr)
- PAM 3370 Race and Public Policy
- STS 3111 Sociology of Medicine
III. Political, Economic, & Food Systems Approaches to Global Health

Includes courses that examine local and global economic and political forces that influence the healthcare system of a particular region and the development of that healthcare system. Courses in this category include a wide range of subjects, from agriculture and food system regulations to formulating balanced policy recommendations. This category focuses mainly on nutritional public policy, from its basis in agro-economic theory to its specific application to developing political systems.

FALL
AEM 1600 The Business of Modern Medicine
AEM 3385 Social Entrepreneurship Practicum: Anabel’s Grocery
AEM // NS 4450 Towards a Sustainable Global Food System: Food Policy for Developing Countries (F, 3 cr)
ANSC // IARD 4000 Feeding the World: The Biological and Quantitative Analyses of Livestock and Crop Systems (F, 4 cr)
BIOEE 4690 // BSOC // STS 4691 Food, Agriculture, and Society (F, 3 cr)
DSOC 2030 Global Garbage
ECON 4640 Economics of Agricultural Development (F, 3 cr)
ECON // PAM 4370 Economics of Health Care Markets (F, 3 cr)
ECON 3910 // NS 4570 Health, Poverty and Inequality: A Global Perspective (F, 3 cr) (formerly 4740)
FDSC // IARD 4020 Agriculture in Developing Nations I (even alt F, 3 cr)
IARD // PLSCS 4140 Tropical Cropping Systems: Biodiversity, Social & Environmental Impacts (F, 4 cr)
IARD // DSOC 2020 Perspectives on IARD (F, 3 cr)
PAM 2350 The U.S. Healthcare System (F, 3 cr)
PAM 4140 // ECON 3740 Global Health Economics and Policy (F, 3 cr)
PLSCS // BSOC // GOVT // IARD // STS 4303 The GMO Debate: Science & Society (F, 4 cr)

SPRING
AEM 2000 Contemporary Controversies in the Global Economy (S, 3 cr)
AEM 3385 Social Entrepreneurship Practicum: Anabel’s Grocery
AEM 4310 Agricultural and Food Policy (S, 3 cr)
COML // EAS // ROMS 2021 Humans and Climate Change (S, 3 cr)
DSOC 2050 // SOC 2206 International Development (S, 3-4 cr)
DSOC 3020 Political Ecologies of Health
DSOC 3400 Agriculture, Food and Society (F, 3 cr)
ECON // PAM 4280 The Economics of Risky Health Behaviors (S, 3 cr)
FDSC // IARD // NTRES 4800 Global Seminar: Building Sustainable Environments and Secure Food Systems for a Modern World (S, 3 cr)
FDSC // IARD 6020 International Agriculture in Developing Nations (S, 3 cr)
HIST 2791 International Humanitarianism (S, 4 cr)
ILRIC 3342 Workplace Health and Safety as a Human Right (S, 4 cr)
IV. **Health Systems & Programmatic Approaches to Global Health**

Courses that include study of interventions, programs, and other methodologies, so as to provide students with the skills, tools and frameworks upon which to implement sustainable development. Courses in this category focus techniques for engineering infrastructures to that are effective in supporting public health initiatives.

**FALL**

- AEM 4880 Global Food, Energy and Water Nexus: Engage the US, China, and India for Sustainability
- BEE // ENGRD 2510 Engineering for a Sustainable Society (F, 3 cr)
- BEE 3299 Sustainable Development: A Web-based course (F/S/Summer, 3 cr)
- BME 4110 Science and Technology Approaches to Problems in Human Health (F, 3 cr)
- CEE 2550 // 4550 AguaClara: Sustainable Water Supply Project (F/S, 3 cr)
- CEE 4540 Sustainable Municipal Drinking Water Treatment (F, 3 cr)
- DEA 2700 Healthy Places: Design, Planning and Public Health
- ILROB 4710 Social Science Research Methods (S, 4 cr)
- MAE 1900 // 4291 Engineering World Health (F/S 1-4 cr) *
- NS 4030 Teaching Apprenticeship
- NS 4650 Leadership Development in Global and Public Health
- NTRES 4160 Conversations in Conservation for One Health
- PADM 5449 Systems Thinking in Public Affairs
- PLBIO 3100 Medicinal Botany and Drug Discovery

**SPRING**

- ANTHR // BSOC // STS 4311 From Surgery to Simulation (S, 4 cr)
- BEE 3299 Sustainable Development: A Web-based course (F/S/Summer, 3 cr)
- BEE 4760 Solid Waste Engineering (S, 3 cr)
- CEE 2550/4550 AguaClara: Sustainable Water Supply Project (F/S, 3 cr)
- CEE 5970 Risk Analysis and Management
- MAE 1900/4291 Engineering World Health (F/S 1-4 cr) *
- NS 4030 Teaching Apprenticeship
- NS 4800 Implementation and Impact in Global and Public Health (S, 4 cr; restricted to students in the Cornell in Washington program)

**SUMMER**

- BEE 3299 Sustainable Development: A Web-based course (F/S/Summer, 3 cr)
- HE 4060 Fieldwork in Diversity and Professional Practice: The Culture of Medicine and Public Health (Summer, 3 cr)

* Students intending to use MAE 1900 / 4291 Engineering World Health towards completion of the Global Health minor must submit a petition describing the focus of their project team’s topic—which must be health-related—prior to taking the course.

V. **Area-Specific Studies (Petition Only)**

A variety of courses focusing on specific regions or populations in developing countries, so as to enable studies targeted to the context in which they complete their field experience. Includes regional anthropological, sociological and economic studies. Students are encouraged to study regional languages that may aid in implementation of health policies; however, language courses do not count towards the minor.

Please contact the Global and Public Health Fellow for an Elective Petition Form. All forms must be submitted prior to the completion of the course.

**Experiential Learning Opportunity (ELO)**

A critical element of the Global Health Minor is an approved eight-week (minimum) Experiential Learning Opportunity (ELO), in which students live and work abroad in a resource-poor setting. The ELO component encourages students to empirically deepen their understanding of global health while continuously living,
learning, working and/or serving abroad in a resource-limited environment. For a minimum of 8 weeks, students are challenged to apply their classroom learning to the field setting and to deepen their understanding of the health problems that disproportionately affect the resource-poor.

An ELO is completed during a Fall, Spring, or Summer term in one of two general ways:

A. **Cornell Global Health Summer Programs**
   - Santo Domingo, Dominican Republic
   - Mysore, India
   - Moshi, Tanzania
   - Lusaka, Zambia
   
   *Required Pre-Departure Preparation:* NS 4620: GSL Pre-Departure Seminar (S, 1-2 cr) OR ILRIC 4260: GSL Pre-Departure Seminar (India) (S, 2 cr)

B. **Independent ELOs**
   - Full-time academic study abroad program
   - Summer internship
   - Volunteer service project
   - Work/research experience

   *Required Pre-Departure Preparation:* one Health & Safety Seminar AND one Ethics, Culture & Diversity Seminar AND NS 4600 Preparatory Assignments

Specific opportunities within (A) the Cornell Global Health Summer Programs and among (B) Independent ELOs are described in further detail below.

A. **Cornell Global Health Summer Programs**

   **Santo Domingo, Dominican Republic | Universidad de Autonoma de Santo Domingo**
   - *Concurrent Coursework:* Universidad Autonoma de Santo Domingo
   - *Service Project:* Asesoria Nutricional Para del Desarrollo Armonico, La Casa Comunitaria de Justica
   - *Living Arrangements:* Homestay with local family
   - *Language Skills:* All language capacities accepted.

   **Mysore, India | Swami Vivekananda Youth Movement** *(offered in collaboration with the School of Industrial & Labor Relations)*
   - *Course Period* (2 weeks): Vivekananda Institute for Indian Studies
   - *Service Project* (6 weeks): Swami Vivekananda Youth Movement
   - *Living Arrangements:* SVYM hostel or guesthouse, depending on site

   **Moshi, Tanzania | Kilimanjaro Christian Medical University-College**
   - *Policy Case Study* (4 weeks, 4 credits): Kilimanjaro Christian Medical University-College
   - *NS 4630: Global Health and Policy Issues in Tanzania (counts as an Elective Course)*
   - *Service Project* (4 weeks): Local NGO, government agency, rural clinic or home for children with disabilities
   - *Living Arrangements:* Homestay with local family

   **Lusaka, Zambia | Southern African Institute for Policy & Research** *(offered in collaboration with the School of Industrial & Labor Relations)*
   - *Concurrent Policy Case Study:* Southern African Institute for Policy & Research
   - *Service Project:* University of Zambia’s University Teaching Hospital
   - *Living Arrangements:* Homestay with local family (4 weeks), guesthouse (4 weeks)

B. **Independent Experiential Learning Opportunities (By Petition Only)**
   - An Independent ELO (i.e. research opportunities, study abroad, etc.) is an eight-week field experience that counts towards completion of the Global Health Minor, but is not directly affiliated with the Cornell Global Health Program. Students are required to complete and submit an Independent ELO Proposal to the Global Health Program Director or Fellow **at least eight weeks prior to departure.**
The Applied Exercise Science Minor
Available to all DNS undergraduates

A minor in Applied Exercise Science may be completed by any DNS undergraduate. Students in other Cornell departments may also complete the minor, but must do so through the Cornell University School of Continuing Education and Summer Sessions (https://www.sce.cornell.edu/) rather than DNS.

Courses for the Applied Exercise Science minor are taken in Ithaca College’s Department of Exercise and Sport Sciences, School of Health Sciences and Human Performance. This program is helpful to students seeking positions in nutrition and physical fitness or pursuing careers in sports medicine and related fields. Students can choose to complete all the requirements for the minor or take some courses as long as they have met the course prerequisites.

Students who complete all specified courses receive a certification letter from Ithaca College (IC), which is a useful credential for job and school applications. Program completion is good preparation for the examination for Fitness Instructor Certification by the American College of Sports Medicine (a certification that also requires American Red Cross Cardiopulmonary Resuscitation (CPR) Certification or the equivalent). Most candidates will benefit from also having a course in physical fitness programming. See the following website for more information: https://www.sce.cornell.edu/pt/register/ic_cu.php

Requirements for the Applied Exercise Science minor

The applied exercise science minor requires 11 credit hours of specified course work at Ithaca College and 6 prerequisite credit hours of course work at Cornell. Exercise science students are required to take both prerequisites (NS 3410 Human Anatomy and Physiology and NS 3420 Human Anatomy and Physiology Laboratory) before enrolling in three required Ithaca College courses:

1. **Kinesiology**: Examines the anatomical structures and mechanical aspects of human movement. Emphasis is placed on the functional anatomy of the musculoskeletal and articular systems.
2. **Exercise Physiology**: Examines physiological changes during exercise, after exercise, and during a training period. Also considers efficiency, needs, and limitations of body systems, and their interrelationships.
3. **Biomechanical Principles of Human Movement**: The study of biological and mechanical factors that affect humans as they move in exercise and sport. Kinematic and kinetic descriptions of selected motor skills receive careful consideration. Note: prerequisite is Kinesiology.

Further information about the program and courses may be found at the following links: Undergraduate Program Descriptions/Courses (https://www.ithaca.edu/undergraduate-admission/programs/) and the Ithaca College Course Catalog (https://homerconnect.ithaca.edu/; search for Exercise and Sport Sciences). In addition, a physics sequence is required for advanced study in most related areas.

Students should take the IC courses as early as possible once pre-requisites are completed (see sequence below), and check for conflicts between Cornell and Ithaca College courses in advance and plan accordingly. Careful planning of course schedules is required to complete both the minor and major, and students are responsible for all logistical arrangements (e.g. city buses or carpooling arrangements).

<table>
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<tr>
<th>FRESHMAN</th>
<th>Introductory biology courses <em>(Cornell)</em></th>
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<tr>
<td>SOPHOMORE</td>
<td>NS 3410 Human Anatomy and Physiology (S, 4 cr) <em>(Cornell)</em></td>
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<td>NS 3420 Human Anatomy and Physiology Laboratory (S, 2 cr) <em>(Cornell; also counts as advanced NS elective or HBHS selective)</em></td>
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<td>JUNIOR / SENIOR</td>
<td>Kinesiology (F/S, 4 cr) <em>(Ithaca College)</em></td>
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<td>Exercise Physiology (F/S, 4 cr) <em>(Ithaca College)</em></td>
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<td></td>
<td>Biomechanical principles of Human Movement* <em>(Ithaca College)</em> (F/S, 3 cr; prerequisite: Kinesiology)</td>
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<td>* Advanced Biomechanics also available (S, 3 cr; prerequisites: Kinesiology and Physics)</td>
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Application, Pre-registration, & Registration

**Application:** Indicate the intent to participate by submitting an Applied Exercise Science Minor Intent form to Terry Mingle (tpm2@cornell.edu, Kinzelberg Hall B36A). After this form is submitted, DNS keeps track of the student’s progress and informs both Ithaca College and the student’s College registrar upon completion (see below under “Minor Completion, Grades, Transcripts, and Transfer Credits.” Ithaca College will then send a paper letter to the student’s home address confirming the completion of the minor.

**Pre-Registration:**
1. **Each semester during pre-registration,** request from Terry Mingle (tpm2@cornell.edu) the course(s) you wish to take at Ithaca College the following semester. Electronic enrollment forms are sent with other NS course information during pre-enrollment. This is so that DNS can negotiate the desired number of spaces, which will be assigned based on availability/program seniority.
2. **Have the required prerequisites** to register for a course. Ithaca College is very strict about prerequisites, and you must indicate how you have met them on the form you file at pre-registration. Please note that spaces are limited; not all requests can be met. Because of high demand for places in the Ithaca College courses for this minor, the Division will **NOT** request a place in additional courses for any student who has earned a grade of less than C in an Applied Exercise Science minor course.

**Registration:**
1. **After being approved by Nutritional Sciences to enroll,** pick up an IC-CU Exchange petition from the CU School of Continuing Education Office (B20 Day Hall). Complete the petition, secure all required for approval signatures (faculty advisor and CALS or CHE Registrar, as appropriate), and return the signed form to the CU School of Continuing Education Office.
2. **Present the approved petition to the continuing education office at Ithaca College during the first week of classes, before attending the first class** (G72 Peggy Ryan Williams Center).
3. Pick up registration/add-drop forms at Ithaca College and take the registration form to the first class meeting.

**IMPORTANT NOTE:** It is the student’s responsibility to find out when classes start at Ithaca College—sometimes before Cornell classes begin—and to accommodate their schedule to fit with Ithaca College and Cornell fall/spring breaks. You are required to be there during these times, unless you personally make other arrangements with the Ithaca College course instructors.

**Minor Completion, Grades, Transcripts, and Transfer Credits**

**Completion:** DNS only reports minors to College registrars once they are complete, including all relevant forms. The College registrar then adds the Minor to your transcript when the degree is conferred (but it will not appear on the diploma). If there are any problems regarding completion, we will contact you. **If you do not see the minor on your transcript after your degree is conferred, please contact your College Registrar’s Office to inquire.**

The minor in Applied Exercise Science is possible through a long-standing exchange agreement between Ithaca College and Cornell through which students may take up to 12 credits at Ithaca College (and vice versa) without additional cost during the school year. Within this agreement, Ithaca College courses:

1. …count toward 120 Cornell graduation credits as elective credits, but only if a grade of “C” or above has been achieved. However, **CALS** students who start but do not finish the minor must petition to count the credits.
2. …count toward the 12 needed in a semester for full-time status and good academic standing.
3. …do not appear on the Cornell transcript and are not included in the Cornell GPA. Students must obtain separate transcripts from Ithaca College to reflect courses completed at this college.
4. …are only free to Cornell students up to 12 credits. Students must pay for any credits taken at Ithaca College beyond 12, and may not take a course at Ithaca College under the exchange program if that course is offered at Cornell.
5. …count toward the 60 credits that external transfer students need to take at Cornell to earn a Cornell degree.
The Applied Exercise Science Minor
Student Intent Form

As soon as you decide to complete the Applied Exercise Science Minor, please complete this form and hand in to Terry Mingle in the Academic Affairs Office (Kinzelberg Hall B36A). If at any time you decide not to complete the requirements, please be sure to notify the Academic Affairs Office. Thank you!

Indicate if you have completed the prerequisites listed below (YES or NO, plus Semester and Year completed). If you have not completed them, please supply an anticipated completion date.

NS 3410 (Human Physiology and Anatomy) ________________________________
NS 3420 (Human Physiology and Anatomy Laboratory) ____________________

Student ID Number: __________________________   netID: ________   Date: _________________
Name: ___________________________________________________________________________
College: ___________________________    Major: _______________________________________
Expected Graduation: (circle one) fall / spring 20 _____   Phone #: ___________________________
Faculty Advisor’s Name: _____________________________________________________________

FOR OFFICE USE ONLY:

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<th>COURSE</th>
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<td>Exercise Physiology</td>
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<td>Kinesiology/Applied Anatomy</td>
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<td>Biomechanics of Human Movement</td>
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Verified Completion @ Ithaca College _________________________________

Notes:
The Nutrition and Health Minor
Available to all non-DNS Cornell undergraduates

DNS offers an undergraduate minor in Nutrition and Health that available to all Cornell undergraduates in all Colleges and majors (except undergraduates in DNS—i.e. NS, HBHS, or GPHS majors—and Biology majors who have a Human Nutrition concentration). The Nutrition and Health minor provides students with basic knowledge about global and public health as well as the necessary skills and experience to begin to build their own unique career path in global and public health. For more information about the Nutrition and Health minor, contact Dr. Julia Felice (julia.felice@cornell.edu // B36B Kinzelberg Hall) or Terry Mingle (tpm2@cornell.edu // B36A Kinzelberg Hall) or see the Nutrition and Health minor page (http://www.human.cornell.edu/DNS/academic/minor-in-nutrition.cfm).

Requirements for the Nutrition and Health minor

The Minor in Nutrition and Health will consist of NS 1150 Nutrition, Health, and Society AND 9 credits of didactic NS courses from the list below. Students must choose the 9 cr. of NS courses from the list. Courses must be completed as letter grade. Please note that NO substitutions for NS 1150 will be accepted (except external transfer students, who may petition), and NO Special Studies (NS 4000, 4010, 4020, 4030, or 4990) or transfer credit courses may be used toward 9-credit elective requirement.

Global Perspectives on Human Health
- NS 3060 Nutrition and Global Health (odd F, 3 cr)
- NS 4450 Toward a Sustainable Global Food System: Food Policy for Developing Countries (F, 3 cr)
- NS 4480 // AEM 4485 Economics of Food and Malnutrition (S, 3 cr)
- NS 4570 // ECON 4740 Health, Poverty, and Inequality: A Global Perspective (even F, 3 cr)

Public Health and Nutrition
- NS 4500 Public Health Nutrition (S, 3 cr)
- NS 3600 Epidemiology (F, 3 cr)

Food Quality and Food Service Management
- NS 2470 Food for Contemporary Living (F/S, 2 cr)
- NS 3450 // FDSC 2000 Introduction to Physicochemical and Biological Aspects of Foods (F, 3 cr)

Human Health and Nutrition
- NS 1220 Nutrition and the Life Cycle (S, 3 cr)
- NS 2750 // ANTHR 2750 Human Biology and Evolution (F, 3 cr)
- NS 3030 Nutrition, Health and Vegetarian Diets (S, 3 cr)
- NS 3150 // PSYCH 3150 Obesity and the Regulation of Body Weight (even S, 3 cr)
- NS 3220 Maternal and Child Nutrition (odd S, 3 cr; enrollment restricted – priority to Dietetics students)
- NS 3410 Human Anatomy and Physiology (Lecture) (S, 4 cr)
- NS 4410 Nutrition and Disease (F, 4 cr)
- NS 4420 Implementation of Nutrition Care (F, 3 cr; enrollment restricted – priority to Dietetics students)

Nutritional Biochemistry
- NS 3200 Introduction to Human Biochemistry (F, 4 cr)
- NS 3310 Human Nutrition and Nutrient Metabolism (S, 4 cr)
- NS 3320 Methods in Nutritional Sciences (F, 3 cr; enrollment restricted – priority to NS majors and Dietetics students)

Psychological and Social Influences on Human Nutrition
- NS 2450 Social Science Perspectives on Food and Nutrition (F, 3 cr)
- NS 4250 Nutrition Communications and Counseling (S, 3 cr; enrollment restricted – priority to Dietetics students)
Registration in and Completion of the Minor

Students will be personally responsible for planning their minor program of study in conjunction with their advisor in their major.

Registration: Students should indicate their intent to participate by submitting a Nutrition and Health Minor Intent form to Terry Mingle (tpm2@cornell.edu, Kinzelberg Hall B36A) as soon as they decide to complete the minor.

Completion: DNS only reports minors to College registrars once they are complete, including all relevant forms. The College registrar then adds the Minor to your transcript when the degree is conferred (but it will not appear on the diploma). If there are any problems regarding completion, we will contact you. If you do not see the minor on your transcript after your degree is conferred, please contact your College Registrar’s Office to inquire.
The Nutrition and Health Minor
Student Intent Form

As soon as you decide to complete the Nutrition and Health Minor, please complete this form and hand in to Terry Mingle in the DNS Academic Affairs Office (Kinzelberg B36A Hall). If at any time you decide not to complete the minor, please be sure to notify the Academic Affairs Office. Thank you!

Student ID Number: __________________________   netID: ________   Date: ________________

Name: ____________________________________________________________________________

College: ___________________________    Major: ________________________________________

Expected Graduation: (circle one) fall / spring 20 _____   Faculty Advisor: ____________________

FOR OFFICE USE ONLY:

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<thead>
<tr>
<th>COURSE</th>
<th>SEMESTER COMPLETED</th>
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<tbody>
<tr>
<td>NS 1150 Nutrition, Health, and Society</td>
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<tr>
<td>Additional courses (9 cr total from 2000-level or above and NS 1220):</td>
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Verified Completion (DNS Academic Affairs) ____________________________________________

Notes:
The DNS Undergraduate Research Honors Program
Available to all NS, HBHS, and GPHS majors

What is the Honors Program?

The Honors Program in the Division of Nutritional Sciences is designed to challenge research-oriented NS, HBHS, and GPHS majors. This structured research-based experience involves four general components:

- the conduct of a research project, in which a student has major role and intellectual engagement in the whole research process
- a course in research, NS 3980
- the completion of a written thesis that reports the research
- an oral presentation of the project at the DNS Undergraduate Honors Symposium

Students in the College of Human Ecology completing the program receive a “bachelor's degree with honors in research.” Students in the College of Agriculture and Life Sciences completing the program receive a “bachelor's degree with distinction in research.”

Although nearly all DNS students in the Honors Program work with DNS faculty mentors, students may also work with faculty mentors outside DNS. However, some conditions and restrictions apply (e.g. the application deadline; see below). Interested students working with non-DNS faculty mentors should contact Dr. Felice (julia.felice@cornell.edu, Kinzelberg Hall B36B) as soon as possible to discuss this option.

Who Should Consider the Honors Program?

The Honors Research Program is an excellent opportunity for students who are highly interested in research and wish to commit substantial time and intellectual energy to a project that will span at least 4 semesters of their undergraduate experience. Honors students experience the excitement of designing a project to generate new knowledge on a topic that interests them and reporting the project findings. By working with faculty mentors and other researchers, they develop skills in research methods and data analysis. Students also learn that research projects are labor intensive and that writing research reports, such as the honors thesis, is a vital, but time-consuming aspect of the research process. This intensive research experience is not suitable for all students, and those who wish a less intensive research experience may conduct research with a faculty member under NS 4010, Empirical Research.

Honors Program Description and Requirements

The honors research program provides a structured experience involving original research with a demonstrated level of achievement in coursework and a genuine interest in exploring research. As part of the honors research program, students must meet the following requirements:

1. **NS 3980 Research in Human Nutrition and Health.** 1 credit, S/U grade only, Fall semester. Students are advised to complete NS 3980 by the fall of the junior year. This course focuses on the structures and practice of professional research conducted in human nutrition and health. It introduces the various approaches and methods used by researchers, the topics of ethics and research controls, the structure of the scientific literature, preparation of research proposals, roles of scientific organizations, and funding sources. Students are required to attend research seminars on campus and submit a report at the end of the term.

2. **Acceptance into a faculty member’s research program.** Students spend the spring sophomore and fall junior term exploring honors project opportunities with prospective faculty mentors. Students are responsible for contacting faculty members and applying to their research programs, although some guidance in this process will be provided in NS 3980. By the fall of the junior year, the student is expected to have identified their faculty member and be working with them on a proposal abstract, which is due early in the spring junior term for May graduates.
3. **Completion of 6 credits of NS 4990 Honors Problem.** Students receive academic credit for work on their honors project under NS 4990 (often 3 credits in each of the last two semesters). How much time is spent on the project each term will be the decision of the student and the faculty mentor. For each 3-4 hours of work, the faculty mentor usually will assign one hour of academic credit, which applies to the preparation of the research plan, the necessary library research (usually completed during the junior year), the carrying out of the research and analysis itself, and the preparation of the thesis. The student may complete more than 6 credits of NS 4990 as desired, but must complete at least 6.

4. **Complete an honors thesis & present at the Honors Student Symposium.** The honors research project comprises the major component of the honors research program. It should be well defined and sufficiently circumscribed to give the student the opportunity to develop the research plan, execute the research and write an acceptable thesis (> 25 pages) within the limited time available to students carrying full academic loads. Please note that a student’s “major role” in this process means considerable effort in the execution of the project plus intellectual engagement in all stages of a project (conception, planning, execution, interpretation, and reporting).

   Because of this high level involvement, an honors project is typically designed early in the junior year, and conducted in the spring junior term and fall senior term (for May graduates). Students may also arrange with their faculty mentor to work on the project during the summer. The spring senior term is usually devoted to writing the thesis (an original research report of at least 25 pages). The student works with the faculty mentor to prepare a draft of the thesis, which is submitted by spring break to a second faculty member (called a “Reader”) for evaluation. When comments are received from the reader, the student must revise the thesis to meet the criteria for acceptance. The student presents the thesis at the Honors Student Symposium at the end of the term (around week 13 of the semester).

5. **Achieve satisfactory GPA for Honors Research Program.** To graduate with honors, the student must maintain the minimum GPA required for the Honors Research Program (> 3.2).

6. **Meet all program requirements and deadlines.** To graduate with honors, the student must meet all program requirements and deadlines as set by the director of the honors program (see Deadlines below). **Students are responsible for meeting deadlines, and missing deadlines without prior approval is grounds for being dropped from the honors program.** Students who do not meet all honors program requirements may still receive academic credit for research work under NS 4990 if recommended by the student’s faculty mentor.

*** Waivers of ANY of these items, especially deadlines, can only be approved by prior, written request to the director of the honors program, Dr. Felice. ***

### How to Apply to the Program

Students interested in the program should review the program requirements, take NS 3980 in the sophomore or junior years, and speak with the honors program director. Application to the program typically occurs in February of the junior year, and a student’s work with their honors thesis mentor typically begins at least 1 semester prior to that point.

- **Application** to the program includes 1) the application form, 2) the faculty advisor agreement form, and 3) a project description with timeline (see Description of Thesis Components below).
- **Acceptance** into the honors research program occurs when the student: 1) is accepted into a faculty member’s research program, 2) submits an application (including a description of their proposed research proposal abstract) and an advisor approval form, and 3) is approved by the director of the honors research program.

**Late Applications:** In some cases, students may be admitted into the DNS honors program after the application deadline has passed. However, students should be aware that late applications to the DNS honors program will be subject to a more stringent review. Namely, late applicants and their faculty mentors
will have to demonstrate the student's readiness to complete an honors thesis on a shorter timeline. As a result, late applicants must submit—along with their other application materials—two additional items:

1. **A detailed project description and timeline.** Students should submit a detailed description of their completed work on their honors thesis research to date, including whether any statistical analyses have been planned or completed. Students should also provide a detailed, descriptive timeline for how they will “catch up” to the honors program deadlines.

2. **A detailed letter of support from their faculty mentor.** This letter should illustrate whether and how the student’s work with that faculty mentor to date supports their ability to complete an honors thesis on time. For example, a faculty mentor should describe the length and nature of their student’s work, the relevant knowledge and skills their student has acquired in that work, and their assessment of their student’s personal ability—e.g., their work ethic or level of independence—to complete an honors thesis on time.

**Non-DNS Research Groups:** Students interested in applying to the Honors program using their non-DNS research should contact Dr. Felice ASAP in their sophomore or junior year for more information. Within some constraints, it is possible for DNS students to complete an Honors thesis under the mentorship of a non-DNS faculty advisor (e.g. one in Food Science, Human Development, or Biological Sciences). In general, these students are held to the same requirements, such as deadlines for applying and turning in thesis components as well as completing NS 3980 and presenting their research. However, because Honors diplomas are granted by the student’s College (e.g., CHE or CALS), and each College has its own policies about Honors diplomas, the requirements may differ from those of students conducting projects within DNS.

### Description of Thesis Components

The completion of an honors thesis requires the submission of multiple components, which are due throughout a student's last three semesters at Cornell. **Each of these components and required procedures for submitting them are described below.**

**Proposal abstract.** To be turned in along with honors program application and advisor approval form. This document must be approved by an identified mentor, and have a title, describe the overall project, the piece to be performed by the student, and an expected timeline for completion. The abstract should be no more than two pages double spaced, and the timetable should go on a second page. The document is not considered binding; mentor and student may agree to change to a task requiring a similar degree of effort and intellectual input.

**Program application.** A form turned in with the project abstract and advisor agreement form that outlines the basic application information: student information, proposed thesis mentor and title, etc.

**Advisor agreement.** A form turned in with the application and project abstract that describes the duties related to faculty mentorship, and allows faculty members to affirm their understanding of these duties and their support of the proposed honors student.

**Progress report.** A document that clearly and comprehensively outlines the student’s progress made to date, tasks left, and a brief schedule. Any changes that were made to the project since the proposal abstract was submitted must be documented at this time.

**Literature review and a 1-paragraph abstract.** The literature review and abstract should relate to the entire thesis in its current form (i.e., reflecting any changes made since the original proposal). The literature review chapter should give the reader a comprehensive understanding of the scientific literature related to the thesis topic, and should be about 4-5 pages, depending on your topic. Thesis reader will be identified based on the abstract.

**Full thesis draft.** To be turned over to a thesis reader for review and comments; at least 25 pages total. Turn in 1 digital copy as email attachment and 1 complete paper copy in Dr. Felice’s mailbox. The full thesis draft includes several components (in addition to any tables and/or figures) that are listed below and also described in more detail here (https://home.liebertpub.com/media/pdf/English-Research-Article-Writing-Guide.pdf):
• Abstract. In its final form, this abstract should summarize background, objective, methods, results, and conclusion (maximum 300 words). Abstracts should be single-spaced in the full thesis; all other components of the thesis should be double-spaced.
• Introduction. The introduction section provides the reader with the essential pieces of background information they need to understand what was done and why. The introduction section should draw from the literature review, but be more concise and targeted to the specific thesis work (maximum 3 pages).
• Methods. Describe any methods and materials used, including but not limited to study design, recruitment, data collection, assays or other procedures, and statistical models.
• Results. Report only your findings; do not discuss or interpret them ("just the facts").
• Discussion. Interpret your results, place them within the related literature, suggest future directions in research, clinical practice, and/or policy, and relay strengths and limitations of your work.
• Conclusions. Present your takeaway messages in summary statements of key contributions and implications.

Final thesis with all corrections/reviisons. Turn in 1 digital copy as email attachment and 1 complete paper copy in Dr. Felice’s mailbox.

Honors research symposium. Students must give a PowerPoint presentation of their honors thesis research (~30 minutes) and must attend the presentations of at least three other honors students.

Important Formatting Guidelines for Honors Program Documents

Honors Program materials will be considered “submitted” and “on time” if and only if:

1. Documents are in either .docx or .pdf format, double-spaced, and have page numbers.
2. Documents are labeled with the correct file name format (see table below).
3. Both a digital copy and a paper copy that has been signed by the faculty advisor are turned in by the deadline. Paper copies may be turned in either to Dr. Felice’s mailbox or to her office in Kinzelberg Hall.

Naming honors thesis files: sample student “Ezra Tompkins” graduating in Spring 2018

<table>
<thead>
<tr>
<th>Component</th>
<th>File name format</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposal abstract</td>
<td>Lastname Abstract gradsemester</td>
<td>Tompkins Abstract S18</td>
</tr>
<tr>
<td>Progress report</td>
<td>Lastname ProgRep gradsemester</td>
<td>Tompkins ProgRep S18</td>
</tr>
<tr>
<td>1-paragraph abstract and literature review</td>
<td>Lastname LitRev gradsemester</td>
<td>Tompkins LitRev S18</td>
</tr>
<tr>
<td>Full thesis draft</td>
<td>Lastname Draft gradsemester</td>
<td>Tompkins Draft S18</td>
</tr>
<tr>
<td>Final thesis</td>
<td>Lastname Final Thesis gradsemester</td>
<td>Tompkins Final Thesis S18</td>
</tr>
</tbody>
</table>
Deadlines

- General deadlines for honors students graduating between Spring 2017—Fall 2019 are listed below, where each column represents the due dates for students planning to graduate in the semester listed at the top of the column.
- Late applications do not change these deadlines: late admits to the honors program are expected to meet all deadlines that arise after their admittance.
- Submit materials to Dr. Felice (julia.felice@cornell.edu) using the requested filename (see Description of Thesis Components). If you do not receive an acknowledgement of receipt, the file was not received, will be considered late, and will be grounds for being dropped from the Honors Program.

<table>
<thead>
<tr>
<th>Component</th>
<th>General Deadline</th>
<th>Expected semester of graduation</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Fall 2018</td>
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<tr>
<td>Application, Advisor approval form, and</td>
<td>3 semesters pre-grad, Friday of Week 3</td>
<td>Friday,</td>
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<td></td>
<td></td>
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<tr>
<td>Progress report</td>
<td>2 semesters pre-grad, Wednesday of Week</td>
<td>Wednesday</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Literature review chapter, 1-paragraph</td>
<td>Final term, Friday of Week 3</td>
<td>Friday,</td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full thesis draft</td>
<td>Final term, Thursday of Week 8</td>
<td>Thursday</td>
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<td></td>
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<td></td>
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<tr>
<td>Readers return thesis with comments</td>
<td>Final term, Friday of Week 10</td>
<td>Friday,</td>
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<td></td>
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<tr>
<td>Final thesis</td>
<td>Final term, Monday of Week 14</td>
<td>Monday,</td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symposium presentation</td>
<td>Last week of class or early study period</td>
<td>Monday,</td>
</tr>
</tbody>
</table>
2017 Honors Research Projects

“Effects of Self-Weighing on Responses to Health Questionnaires.” Nana Entsiwa Adenu-Mensah. (Mentor: David Levitsky)

“Association of childhood parental control over feeding practices with chocolate eating behavior in college-aged females.” Cody Goldsmith. (Mentor: Jeff Sobal)

“The determinants and effects of uracil misincorporation in DNA.” Jabez Gondokusumo. (Mentors: Patrick Stover, Martha Field)

“Anthropometry and Dengue Fever in Coastal Ecuador.” Julia Tedesco. (Mentor: Julia Finkelstein)

“Characterization of the alpha-tocopherylquinone-omega-hydroxylase activity of CYP4F2 and human liver microsomes.” Sloan Lynch. (Mentor: Bob Parker)

“Vitamin B12 Deficiency-Induced Peripheral Neuropathy in a Mouse Model of Perturbed Folate Metabolism.” Danny Zheng. (Mentors: Patrick Stover, Martha Field)

“Factors Associated with Pica Behavior During Pregnancy and Postpartum Among a Cohort of Women in Western Kenya.” Joshua Miller. (Mentor: Sera Young)

“Characterization of vascular smooth muscle cell contractile phenotypes in response to wall shear stress in the pharyngeal arch arteries.” Jessica Ryvlin. (Mentor: Jonathan Butcher)

2016 Honors Research Projects


“Lamin malformation disrupts nuclear de novo thymidylate synthesis and leads to uracil accumulation in nuclear DNA.” Phil Brown. (Mentor: Patrick Stover)

“The Impact of a Weight Loss Intervention on Health-Related Quality of Life in Overweight and Obese Women with Irregular Menses.” Hayden Haun Chung. (Mentor: Marla Lujan)

“Negative Priming Effect of Weighing on Food Intake.” Rachel Corona. (Mentor: David Levitsky)

“The effects of folate deficiency, arsenic trioxide, and serine hydroxymethyltransferase (SHMT1) on de novo thymidylate synthesis.” Aislyn DiRisio. (Mentor: Dr. Patrick J. Stover)

“Influence of Caffeine on Cognition and Cholinergic-Induced Cognitive Deficits.” Annie Erickson. (Mentor: Eve de Rosa)

“Comparison of Accelerometer Data Reduction Algorithms in Women of Reproductive Age.” Dana Larsen. (Mentor: Marla Lujan)

“Tissue Transglutaminase Interacts with the Major Focal Adhesion Protein Paxillin.” Yilun Ma. (Mentor: Richard A. Cerione)

“Identifying Factors that Influence a Child’s Food Choice.” Nina Quirk. (Mentor: Jamie Dollahite)

“Cadherin-11 overexpression induces extracellular matrix remodeling and calcification in mature aortic valves.” Derek Sung. (Mentor: Jonathan Butcher)

“Maternal Characteristics Affecting Preschool-Aged Children’s Diets.” Madeline Tchack. (Mentor: Carol Devine)

“Investigating the efficacy of caloric restriction to attenuate inflammatory cell activity and cancer proliferation in a metastatic mouse model.” Camille Wang. (Mentor: Nozomi Nishimura)

“Self-Weighing can Block Priming Effects of Food Advertising and Control Caloric Intake.” Christine Wang. (Mentor: David Levitsky)

“Vitamin D3, 25-dihydroxyvitamin D3, and 1,25-dihydroxyvitamin D3 Increase CYP24A1 mRNA Expression in Human Placental Extravillous Trophoblast Cells, but Their Action is Modified by Hypoxia.” Madeleine Wood. (Mentor: Patsy Brannon)
The DNS Undergraduate Research Honors Program
Program Application Form

IMPORTANT NOTES:

1. This form one of three components of a student’s application to the DNS Honors Program, and must be turned in with the project abstract and advisor agreement form. Applications will not be considered until all materials have been submitted.

2. Applications are due in February of the junior year (or September of junior year if graduating a semester early). In some cases, late applicants may apply; contact Dr. Felice for more information.

Applicant name __________________________________________ Date: _________________

Student ID Number: ______________________ Email: _______ @cornell.edu

Major:         NS        HBHS        GPHS        College:         CHE        CALS                GPA: _______

Expected graduation semester:          Fall        Spring      20____

Honors Thesis faculty advisor: ______________________________________ Dept: ______________

Are there any other faculty, staff, postdocs, or graduate students that will advise you in this work? If so, please name them.

____________________________________________________________________________

Academic faculty advisor: ______________________________________________________

Are you participating in or considering any minor fields (within or outside DNS) or pre-professional paths (e.g. pre-health or dietetics)? If so, please name them.

____________________________________________________________________________

When did you complete NS 3980 (or when do you plan to)?      Fall 20____

Description of Honors Project: (briefly describe the general topic or public health problem of interest, the proposed question to be addressed by your work, and your general proposed study design):

Tentative thesis title: ____________________________________________________________

Project description:

I have read and approve this DNS Honors Program application.

Honors Thesis Advisor signature: _______________________________ Date: __________
The DNS HONORS PROGRAM
Faculty Advisor Agreement Form

IMPORTANT NOTES:

1. This form is to be filled out only by the Honors thesis advisor.
2. Digital copies of this form must be emailed to Dr. Julia Felice by the Honors thesis advisor directly (julia.felice@cornell.edu). Paper copies of this form must include physical (i.e. not digital) initials and signature.
3. This form one of three components of a student’s application to the DNS Honors Program, and is due on the same deadline as the student’s application form and project abstract. Applications will not be considered until all materials have been submitted.

Honors Program Applicant: __________________________________________________________

Honors Thesis Advisor: __________________________________________________________
Email: _____@cornell.edu    Phone: ___________________ Campus address: __________________

As an HONORS THESIS ADVISOR, I agree to (initial each item):

_____ Review, provide feedback on, and sign my honors student’s proposal abstract (due at the beginning of the second semester junior year)
_____ Review, provide feedback on, and sign my honors student’s progress report (due at the beginning of first semester senior year)
_____ Review, provide feedback on, and sign my honors student’s abstract and literature review (due at the beginning of the last semester)
_____ Review, provide feedback on, and sign my honors student’s full thesis (due middle of last semester)
_____ Assist my honors student in responding to reader’s required revisions for the final honors thesis
_____ Serve as a reader for 1 to 2 other Honors theses, if needed

Please read and initial the following statements:

_____ I have read the DNS Honors Program information, including its requirements and deadlines, and I agree to serve as supervisor for this student’s honors project.
_____ I believe that my honors student will have enough data to write a 20-30 page honors thesis.
_____ I am aware that any Honors student may be removed from the program at any time, if the Honors Program Director deems that inadequate work has been submitted, or if deadlines are not met.

Name two faculty members who could review the thesis of this Honors student—preferably DNS faculty members, but faculty in other departments may also be named if needed.

1. Name __________________________________________ Department ______
2. Name __________________________________________ Department ______

Honors Thesis Advisor signature: ____________________________ Date: __________
Undergraduate Research
Available to all NS, HBHS, and GPHS majors

Participating in research as an undergraduate has many benefits, even if research is not part of a student’s long-term career goals. Research projects provide important practical experience in the scientific process, from conceptualization of research questions and study design to implementation and even publication. Research experience is recommended or required for many educational and professional opportunities, and may yield helpful recommendations or professional connections.

Ways to Participate in Undergraduate Research

A variety of opportunities exist for undergraduates in DNS to become involved in research at Cornell. Students who wish to participate in research for credit should check the current Class Roster for course-specific instructions (https://classes.cornell.edu/). These opportunities fall under four general categories.

1. NS 4010 Empirical Research: Students first identify the kind of research they are interested in pursuing and then contact faculty members with relevant types of research to see whether and how they may become involved in a project (see below for tips). The student and faculty member then discuss the details of and outline the agreement for the content of the student’s research work. Once an agreement is reached, the both CHE and CALS students must submit a form online through CHE to enroll in NS 4010 credits: https://students.human.cornell.edu/student/. IMPORTANT NOTES:
   - Students may register for a maximum of 4 credits of NS 4010 per semester.
   - Before NS 4010 can be taken for a letter grade, it must first be taken as S/U for at least 2 credits.
   - After the course has been successfully completed for at least 2 credits S/U, the student may then request to take the course for a letter grade if they choose.

2. NS 4990 Honors Program: Students with very strong academic records are invited to apply to the DNS Honors Program in February of their junior year (or three semesters before their expected graduation date). This structured research experience is for students who are highly interested in research and willing to commit substantial time and intellectual energy to a project that will span multiple semesters. Students must apply to the DNS Honors Program with a confirmed faculty advisor and a proposed Honors research project, so they typically have already completed 1-2 semesters of research in the same lab by the time they apply (e.g. as NS 4010 credits). For more information, see the pages that describe the DNS Honors Program.

3. Research in other departments: Undergraduates in DNS may participate in research in other departments, both within and outside their College, and they typically register for research credit through that department (i.e., their equivalent of NS 4010). This experience comes with many of the same benefits as participating in research within DNS, and also helps to diversify a student’s content knowledge and expertise. IMPORTANT NOTES: Students considering participating in research in other departments or Colleges should discuss this option carefully with their DNS faculty advisor, because:
   - Research credits outside DNS cannot be used for advanced NS elective credits (relevant only to Nutritional Science majors).
   - Research outside a student’s College cannot be used for College elective credits.
   - Research that is unrelated to human health and/or nutrition may affect a student’s eligibility for the DNS Honors Program. For more information, contact Dr. Julia Felice (julia.felice@cornell.edu).

4. Student Employment: A few opportunities may exist for students to assist with a research project as an employee during the academic year and/or summer. The number and nature of the opportunities vary. To identify such opportunities, students contact faculty members directly.

Exploring Research Opportunities

Identifying potential faculty research advisors: Identifying potential faculty research advisors may include searching for faculty members that use the type of research methods you wish to learn about (e.g.,
Social science methods or lab methods) or investigate the problem you wish to investigate (e.g., infant nutrition or lipid metabolism). The extent to which a faculty member can involve students in his/her research program will vary according to the size and scope of various projects, the faculty member’s other commitments, and the skills/abilities of individual students.

To identify potential faculty research advisors within DNS, it is most helpful to find out about the types of research being conducted in DNS. DNS faculty members’ websites describe their current research interests and activities, and these websites can be accessed on this page: http://www.human.cornell.edu/dns/academic/facultyconcen.cfm Academic faculty advisors, the instructors of courses that interest you, and students in other majors can also help students identify appropriate DNS faculty members to contact. In addition, explore the faculty pages of other department web sites.

Suggestions for contacting potential faculty research advisors

BEFORE meeting with a faculty member:
- **Speak** to faculty members at least a semester before you would like to start research.
- **Make an appointment** to see a faculty member by speaking with their administrative assistant, signing up for office hours, or sending an email.
- **Prepare** an updated copy of your resume and coursework.
- **Look** at any necessary forms (e.g., https://students.human.cornell.edu/student/) and **think** about how much weekly time you have in the coming semester(s) to devote to research

DURING a meeting with a faculty member:
- **Ask** the faculty member about their current/future research projects and their expectations for undergraduates who work with them in research.
- Be prepared to **discuss** why you are interested in research and working within their research group, how much time per semester and/or how many semesters you wish to be involved in research, and previous work and research-related experiences.
- **Remember** that all faculty members were undergraduates at some time, and many of them arranged their first research experience through this process. Faculty members like to talk about their research!

Assistance with Statistics

One of the many things that students learn when they are involved in research is how to apply the knowledge acquired in statistics classes to real data. The Cornell Statistical Consulting Unit (CSCU) is here to help you with this. Students involved in research projects are encouraged to seek assistance from CSCU for the design of experiments and surveys, the write-up of the statistical method section of proposals, the planning and implementation of statistical analyses, the interpretation of output and, the write-up of the results for reports or publications. Help is available by appointment or during specified walk-in hours; see the CSCU web site at http://www.cscu.cornell.edu/ for more information.
Supervised Fieldwork
Available to all NS, HBHS, and GPHS majors

Structured learning experiences in the real world (i.e., the “field”) help students link theory to practice. Students also learn about communication, team work, setting goals, client needs, and the social, economic and political forces that influence professionals who work in the food, nutrition and health fields. Students who wish to participate in research for credit should check the current Class Roster for course-specific instructions (https://classes.cornell.edu/).

Examples of Potential Supervised Fieldwork Experiences

Students may conduct supervised fieldwork in a variety of topic areas settings. For example:

- **Nutrition and fitness**: Advanced nutrition students serve as nutrition counselors to student athletes and members of local fitness clubs.
- **Community nutrition**: Students work with local Cooperative Extension professionals and others in developing and pilot testing educational programs for adults and children.
- **Nutrition and business**: Students intern with a local software firm to learn about developing and testing food composition data bases, dietary assessment instruments, and food management programs for use by the health care industry.
- **Nutrition and health care**: Students examine how nutritionists and other health care practitioners treat and counsel patients with different conditions and the many factors that influence how these professionals conduct their work.
- **The Urban Summer Program**: Based in New York City, this summer program is another excellent opportunity to gain field experience. Although the program is based in the College of Human Ecology, all undergraduate students that have completed their freshman year are eligible to apply. More information is available on the Urban Summer website: https://www.human.cornell.edu/academics/offcampus/urbansemester/home

Participating in Fieldwork through NS 4020

Students can earn credit for a planned field experience through NS 4020 Supervised Fieldwork. This fieldwork is “supervised” in that the student registers for this credit through a DNS faculty member, who evaluates the student’s work. Participating in fieldwork through NS 4020 requires several components:

1. **Planning**: Students must plan fieldwork with a DNS faculty member in advance, with explicit goals, planned activities, and expected outcomes determined before the NS 4020 registration.
2. **Registration**: Once an agreement is reached, the both CHE and CALS students must submit a form online through CHE to enroll in NS 4010 credits: https://students.human.cornell.edu/student/. On this form, the student will have to describe the content of their fieldwork as agreed upon with their DNS faculty supervisor. IMPORTANT NOTES:
   - Students may register for a maximum of 4 credits of NS 4020 per semester.
   - Before NS 4020 can be taken for a letter grade, it must first be taken as S/U for at least 2 credits. After the course has been successfully completed for at least 2 credits S/U, the student may then request to take the same course for a letter grade if they choose.
   - CALS students also register for NS 4010 through the CHE petition page at the link above.
3. **Communication and Evaluation**: A student’s fieldwork experience must involve ongoing communication with their DNS faculty supervisor via regular conferences in person or by phone or email. The fieldwork experience also must include a reflective component (e.g. an analysis of a journal or systematic record of the experience) to allow the student to consider their feelings, attitudes, and understandings as well as the applications of classroom learning to practice. The student’s work also must be evaluated by the faculty supervisor. IMPORTANT NOTES:
   - The basis on which a student’s grade will be determined must be agreed upon in advance with the faculty supervisor (e.g. by evaluating journals, papers, oral presentations, input from field supervisors, and/or other materials developed as part of the experience).
   - The number of credits also must be determined in advance. For 1 academic credit, the student should be working in the placement or on materials relevant to the placement an average of 3-4 hours per week for 14 weeks. This time is in addition to that spent with the faculty member.
Global Learning, Exchange, and Urban Summer

Available to all NS, HBHS, and GPHS majors

Undergraduates in NS, HBHS, and GPHS majors may take a semester off campus to supplement their academic experiences through Global Learning (also known as Study Abroad) and Urban Summer programs. Undergraduates in CHE may also take a semester off campus through the Exchange Program. Usually, the semester is devoted to studying in elective areas or gaining field experience related to their career goals.

DNS students have studied in Italy, Australia, England, Israel, Spain, Denmark, and the Semester at Sea. Through the Urban Semester Program, students have learned about multicultural issues in New York City and gained experience in geriatric long term care facilities, surgical intensive care units, pediatric medical practice, and community nutrition programs. Students who have taken advantage of these programs report that they have wonderful experiences in many different ways, and return to campus with new understandings about themselves, their career goals, the global environment, and the social, cultural, economic, and political forces affecting people’s lives in the real world.

Planning Ahead

Most NS, HBHS, and GPHS majors have interests and career goals that involve complex sets of sequenced courses, and some students have multiple goals. Fitting in a semester off-campus requires early planning, including developing a plan for completing required courses in the right order and on time. To fit everything in, students may need to double up on some courses earlier than other students or take one or more courses during summer or winter terms. Some students choose to postpone plans to attend medical school, dietetic internships, or graduate programs. Extracurricular commitments, the need to work during the summer or academic year, and personal situations may also impact a student’s planning for a semester off campus.

Students who wish to spend a semester off-campus should start the planning process as early as possible—no later than the fall of the sophomore year. This planning process must include:

1) meeting with the student’s faculty advisor to discuss academic goals
2) developing a plan to complete graduation requirements on time
3) seeking out relevant contacts and information related to the program(s) of interest (see below)

In general, it is not recommended for students to complete required courses in chemistry, biology or nutrition when they are off-campus. Students do, however, complete courses for college distribution requirements. GPHS major may use these opportunities toward the major’s “experiential learning” requirement, if approved in advance.

Junior year is usually the time that NS, HBHS, and GPHS majors spend off campus. However, this is also the year in which biochemistry is taken by most/all DNS students and in which NS 3310 Nutrient Metabolism is taken by NS majors. Students who take a semester off campus during their junior year can take biochemistry in the alternate semester—however, for CHE students, the only biochemistry option that offers CHE credit is NS 3200 (a fall semester only course). Students may also postpone NS 3310 until the spring of their senior year.

Important Notes

For All Students

Students are responsible for understanding all the graduation requirements for his/her program and all the procedures related to his/her academic and career goals, including the procedures for the Study Abroad, Exchange, or Urban Semester Programs. Cornell abounds in resources to help, but students are responsible for pulling together information from many sources, including your faculty advisor, the
DNS Academic Affairs Office, either CHE or CALS Student Services, and the Urban Summer, Global Learning, and/or the CHE Exchange Programs. Remember that questions are always welcome! There are people to speak with, printed materials to study, and many sources of information on the web. Be sure to find out the application deadlines for the program(s) of interest. **Program application deadlines may be two semesters before students enter the program.**

For the **Global Learning Program**, contact the University office and your College’s Global Learning advisor:
- **Global Learning**: 474 Uris Hall // [http://www.cuabroad.cornell.edu/](http://www.cuabroad.cornell.edu/)
- **CHE Global Learning advisors**: Paul Fisher ([psf1@cornell.edu](mailto:psf1@cornell.edu)) and Deanne Maxwell ([dhm8@cornell.edu](mailto:dhm8@cornell.edu)) // Academic Surge A (Ag Quad)
- **CALS Global Learning advisor**: Julia Franke, 278 Morrison Hall // [jef298@cornell.edu](mailto:jef298@cornell.edu)

For **Urban Summer**:
- **Website**: [https://www.human.cornell.edu/academics/offcampus/urbansemester/home](https://www.human.cornell.edu/academics/offcampus/urbansemester/home)
- **Program Director**: Sam Beck // (212) 746-1846 // [sb43@cornell.edu](mailto:sb43@cornell.edu)

For the **CHE Exchange Program**:
- **Website**: [https://www.human.cornell.edu/academics/offcampus/exchange/home](https://www.human.cornell.edu/academics/offcampus/exchange/home)
- **Program advisors**: Paul Fisher and Deanne Maxwell, Academic Surge A (Ag Quad) // [psf1@cornell.edu](mailto:psf1@cornell.edu)

For **Honors Students**

Students who wish to participate in the Honors Program should note that DNS Honors Program students are expected to participate in required seminar (NS 3980), and are normally expected to begin planning their research in the fall of their junior year and begin implementing it in the spring of their junior year. DNS Honors Program students who plan to study off campus in the junior year must receive special permission to make up required work. Contact Dr. Julia Felice ([julia.felice@cornell.edu](mailto:julia.felice@cornell.edu)) for more information.

For **Pre-Health Students**

Pre-health students must consider carefully their timeline for applying to and attending medical school. Students apply to medical school more than a year before they plan to matriculate. For example, those who wish to attend medical school immediately after graduating from Cornell begin the application process in the junior year. Therefore, students who plan to be off-campus in your junior year must plan when to complete the core pre-health requirements, when to take the MCAT, and how to participate in the Cornell’s Health Careers Evaluation Committee’s centralized services for obtaining letters of reference.

Fall term of the junior year is a common time for our students to spend a term abroad. However, a fall junior term off-campus requires that you have completed the requirements for two terms of organic chemistry and two terms of physics prior to your junior year. Spring term is usually a less desirable time to be off-campus because this is the term in which pre-health students participate in the interviews for the Health Careers Evaluation Committee.

For **Dietetics Students**

Dietetics students must pay close attention to the sequence of and prerequisites for required Dietetics courses, including NS 2470, 4250, 4410, 4420, 4500, 4880. Fall term of the junior year is a good time to study off-campus because students can take NS 3310 Human Nutrition and Nutrient Metabolism, which is a prerequisite for NS 4410, Nutrition and Disease, taken in the fall of the senior year. However, this plan requires taking biochemistry in the spring of the sophomore year or in the summer before the junior year.
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