PHYSICS (BA)

College of Arts and Sciences

Program Website (http://physics.cornell.edu)

CIP: 40.0801 | **HEGIS:** 1902.00 | **NYSED:** 05728

Program Description

The Physics Major: Two Routes to a Promising Future: The analytical and problem-solving skills and the fundamental conceptual and practical understanding of how the world works provided by an education in physics have allowed physics majors to pursue careers—and have major impacts—not just in physics, but in engineering, education, medicine and the life sciences, the military services, computer and information sciences, earth and environmental sciences, law, finance and economics, management consulting, philosophy of science, forensics, and public policy. Reflecting this breadth of opportunity, the Physics Department offers two approaches to the major:

- **The concentration within physics ("inside concentration")** is the principal path to professional or graduate work in physics and closely related fields, and is also the best choice for students who wish to obtain maximum benefit from rigorous studies in physics. The inside concentration consists of the core physics courses plus electives taken within the Physics Department.
- **The concentration outside physics ("outside concentration")** provides more flexibility for those wanting to develop skills in physics but whose career interests lie elsewhere. For example, a premedical or biophysics student might concentrate in biology; a pre-law student might concentrate in business, history, or public policy; and a student planning graduate work in econometrics or on pursuing an M.B.A. might concentrate in economics. Students interested in education careers, and in capitalizing on the critical national shortage of high school physics teachers, may concentrate in education.

Physics majors—especially those concentrating within physics—are advised to start the introductory physics sequence in the first semester of their first year, as a delayed start can reduce flexibility in future course scheduling. We strongly encourage prospective physics majors with AP credit in Physics to forfeit their AP credit and begin with PHYS 1116 Physics I: Mechanics and Special Relativity. Students who switch to the physics major after taking introductory physics in their sophomore year can usually still complete an outside concentration. Students may apply to join the physics major after completing two full semesters of physics courses at Cornell, together with the appropriate mathematics prerequisites. In order to join the major, students must have at least an average grade of B- in their Cornell physics and math courses, and have no physics or math grades lower than C-. Prospective physics majors with any physics grades lower than B- should as soon as possible meet with the director of undergraduate studies to discuss their preparation. Grades of at least C- (or S for S-U only courses) are required in all courses counting toward the physics major.

Advising

Prospective majors are urged to meet with the Physics director of undergraduate studies for advice on advanced placement credit and on program planning. Based on their specific interests, students will be matched with a major advisor by the director of undergraduate studies. The student and major advisor will then work out the details of the major course program.

Achieving success in a physics course is easier if you have the proper preparation. Each physics course description lists prerequisite courses that develop mastery in the needed mathematics and physics. Students who wish to enroll in a course but lack the listed prerequisites may be able to succeed with an appropriate work plan, especially if they have other relevant prior experience. These students must discuss their preparation with the course instructor and with their advisor before enrolling.

Overview

The total required minimum credits to fulfill a physics major is 62, if you are an outside concentrator. Inside concentrators must fulfill 68 credits. All core courses (with the exception of PHYS 2216 Introduction to Special Relativity) should be taken for a letter grade. No more than 4 credits of Independent Study/Senior Thesis can be applied to an inside or outside concentration. No more than 4 credits of S/U classes can be applied to the inside or outside concentration. The physics major is a full-time program and can be completed over 8 semesters. Students are encouraged to visit the A&S Career Development Office to look for internships, externships and other employment opportunities. Within the Department, students are informed of summer research opportunities both within and outside of Cornell when the Department is notified. Students are encouraged to participate in research. The Director of Undergraduate Studies holds a variety of Information Sessions with students on topics such as graduate school admissions and acceptances.

Honors

The Honors criteria described here will start for all graduates in the 2026-2027 academic year. Honors in Physics requires maintaining a cumulative GPA of 3.7 or higher as well as either:

1) completing a senior thesis with a A- grade or better in the senior thesis courses,

2) being nominated by a faculty member who the student has conducted research with (by emailing physicsdus@cornell.edu).

Double Majors

Students are welcome to pursue a physics major concurrently with another major; either in the college of Arts and Sciences or in another college through the concurrent degree program. No course used to satisfy a requirement of another major can simultaneously be used toward satisfying the outside concentration for the physics major. An outside concentration may not be in the same subject as that of a second major.

Program Information

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

Program Requirements

The Physics Core—All physics majors must complete a core of physics courses (a minimum of 32 credits) and mathematics courses (15 credits), as follows:

A three-semester introductory physics sequence:

Either:

Code	Title	Hours
PHYS 1112	Physics I: Mechanics and Heat	3
PHYS 2216	Introduction to Special Relativity	1
PHYS 2213	Physics II: Electromagnetism	4
PHYS 2214	Physics III: Oscillations, Waves, and Quantum Physics	4

Or- its more mathematically rigorous version:

Code	Title	Hours
PHYS 1116	Physics I: Mechanics and Special Relativity	4
PHYS 2217	Physics II: Electricity and Magnetism	4
PHYS 2218	Physics III: Waves and Thermal Physics	3

Note: Students may freely switch between classes in either sequence (using the electronic add/drop form from their college) up until the end of the 7th week without petition. Students from life/chemical/health sciences backgrounds who decide to switch into the physics major may also use PHYS 2207 Fundamentals of Physics I as their introductory mechanics class. Students who do not take PHYS 1116 Physics I: Mechanics and Special Relativity must also complete PHYS 2216 Introduction to Special Relativity.

Two introductory lab courses:

- PHYS 1110 Introduction to Experimental Physics - required as a co-requisite with PHYS 1112 or PHYS 1116
- PHYS 2210 Exploring Experimental Physicss - required as a co-requisite with PHYS 2218, and encouraged as a co-requisite with PHYS 2214

Mathematics courses covering single and multivariable calculus, linear algebra, series representations, and complex analysis:

Code	Title	Hours
Single-Variable Calculus		
MATH 1120	Calculus II (or)	4
MATH 1910	Calculus for Engineers (or)	4
Multivariable Calculus		
MATH 1920	Multivariable Calculus for Engineers (or) [1]	4
MATH 2220	Multivariable Calculus (or)	4
MATH 2240	Theoretical Linear Algebra and Calculus	5
Differential Equations		
MATH 2930	Differential Equations for Engineers [1]	4
MATH 3270	Introduction to Ordinary Differential Equations	3
Linear Algebra		
MATH 2210	Linear Algebra (or)	4
MATH 2230	Theoretical Linear Algebra and Calculus (or)	5
MATH 2310	Linear Algebra for Data Science (or)	4
MATH 2940	Linear Algebra for Engineers	4

[1] Recommended for physics majors

Note: Inside concentrators should complete at least two semesters of advanced mathematics classes at the 3000+ level such as the AEP 3200 Introductory Mathematical Physics & AEP 4200 Intermediate Mathematical Physics sequence, or other relevant classes.

Five upper-level courses beyond the three-semester introductory sequence, consisting of:

Code	Title	Hours
The two-course sequence in modern physics:		
PHYS 3316	Basics of Quantum Mechanics	4
PHYS 3317	Applications of Quantum Mechanics	4
At least three credits of laboratory work selected from:		3
PHYS 3310	Intermediate Experimental Physics	
PHYS 3330		
PHYS 3360	Electronic Circuits	
PHYS 4410	Advanced Experimental Physics	
ASTRO 4410	Multiwavelength Astronomical Techniques	
BEE 4500	Bioinstrumentation	
Intermediate courses in analytical mechanics and electricity & magnetism:		
PHYS 3318	Analytical Mechanics	4
PHYS 3327	Advanced Electricity and Magnetism	4

Additional Requirements

In addition to the core, each physics major must complete either an "inside" or "outside" concentration that has been agreed upon by the student and major faculty advisor consistent with the following guidelines.

Concentration "Inside" Physics

Students planning professional or graduate work in physics are encouraged to take the more advanced and analytically rigorous versions of the core courses—PHYS 1116, PHYS 2217, and PHYS 2218. Students with less high school preparation may start in PHYS 1112 and then switch to the advanced sequence in later semesters. Students with strong backgrounds, who may have advanced placement credit for PHYS 1112 and/or PHYS 2213, are very strongly encouraged to start with PHYS 1116.

For a concentration within physics, the minimum 21 credits beyond the core must consist of the following:

- Two additional 3000+ level math classes (typically AEP 3200 and AEP 4200.
- PHYS 4230 and PHYS 4410.
- 7 additional credits of physics courses with numbers greater than 3000 or other courses approved by the director of undergraduate studies (for example, ASTRO 4431-ASTRO 4432, or AEP 4340. Note that a physics concentration requires a minimum of 7 credits of laboratory work.

The sequence followed by each student will depend upon his or her interests and precollege preparation, and will be determined in consultation with the major advisor. Students are advised to strongly consider also taking PHYS 4443. Majors are strongly encouraged to participate in the department's research activities. If this activity is done as an independent project, PHYS 4490, up to 4 credits can be applied toward the concentration.

Concentration "Outside" Physics

For outside concentrations, the courses to be counted in the minimum 15 credit hours beyond the core must have internal coherence and lead to mastery in the area of concentration. The course sequence must be worked out with and approved by the major faculty advisor. At least 8 of the 15 credit hours must be in courses numbered above 3000. Past areas of concentration include astronomy, business, chemical physics, computer science, econometrics, education, English, geophysics, history, and philosophy, law, meteorology, and public policy. A combined biology/chemistry concentration is common for premedical students or those who wish to prepare for work in biophysics.

The department particularly wishes to encourage students with an interest in science education. Information about the education can be obtained from the College of Agriculture and Life Sciences Education Minor (https://catalog.cornell.edu/programs/education-minor/) or from the Physics director of undergraduate studies.

The core for students with outside concentrations may follow either PHYS 1112–PHYS 2213–PHYS 2214 or the advanced PHYS 1116–PHYS 2217–PHYS 2218. Students concentrating in astronomy who might continue on to graduate school in that field are encouraged to include ASTRO 4410, ASTRO 4431, and ASTRO 4432 within the concentration.

Typical Physics Course Sequence

Students with a score of 4 or higher on AP calculus BC are advised to begin physics in their first semester. Students eligible for AP physics credit are generally advised to forfeit their credit and instead take the more challenging PHYS 1116 Physics I: Mechanics and Special Relativity.

While there is great variability in course sequences, a typical example would be:

First Year		
Fall Semester		**Hours**
PHYS 1112 or PHYS 1116	Physics I: Mechanics and Heat or Physics I: Mechanics and Special Relativity	3-4
PHYS 1110	Introduction to Experimental Physics	1
MATH 1920 or MATH 2220	Multivariable Calculus for Engineers or Multivariable Calculus	4
	Hours	**8-9**
Spring Semester		
PHYS 2213 or PHYS 2217	Physics II: Electromagnetism or Physics II: Electricity and Magnetism	4
MATH 2930	Differential Equations for Engineers	4
PHYS 2216	Introduction to Special Relativity [1]	1
	Hours	**9**
Sophomore Year		
Fall Semester		
PHYS 2214 or PHYS 2218	Physics III: Oscillations, Waves, and Quantum Physics or Physics III: Waves and Thermal Physics	4
PHYS 2210	Exploring Experimental Physics	1
MATH 2940 or MATH 2210	Linear Algebra for Engineers or Linear Algebra	4
	Hours	**9**
Spring Semester		
PHYS 3316	Basics of Quantum Mechanics	4
PHYS 3318	Analytical Mechanics	4
AEP 3200	Introductory Mathematical Physics (typically taken by inside concentrators)	4
	Hours	**12**
Junior Year		
Fall Semester		
PHYS 3330 or PHYS 3360 OR	or	3
PHYS 3327	Advanced Electricity and Magnetism (alternative)	4
AEP 4200	Intermediate Mathematical Physics (typically taken by inside concentrators)	4
	Hours	**11**
Spring Semester		
Concentration elective(s)		
	Hours	**0**
Senior Year		
Fall Semester		
PHYS 3317	Applications of Quantum Mechanics	4
Concentration elective(s)		
	Hours	**4**
Spring Semester		
Concentration elective(s)		
	Hours	**0**
	Total Hours	**53-54**

[1] Only if student has not taken PHYS 1116 Physics I: Mechanics and Special Relativity.

Students should consult with their advisor about their concentration electives—inside concentrators often take PHYS 4443 in the spring of their junior year in order to maximize their options during their senior year.

Crossovers between the sequences PHYS 1112-PHYS 2213-PHYS 2214 and PHYS 1116-PHYS 2217-PHYS 2218 are possible.

Courses for Non-Physics Majors

PHYS 1101–PHYS 1102 make up an introductory sequence that emphasizes conceptual understanding and quantitative problem-solving without the use of calculus. The courses are taught in a flexible, individualized instruction format. First-year students are not eligible to enroll in this sequence.

PHYS 2207–PHYS 2208 covers similar material to PHYS 1101-PHYS 1102 but is offered in a lecture-based format. Knowledge of basic calculus is assumed.
PHYS 1112–PHYS 2213–PHYS 2214 are introductory physics courses for students who want a solid grounding in physics and a chance to develop their calculus-based problem-solving skills. Nonmajors considering more advanced work in physics are encouraged to take PHYS 1112–PHYS 2213–PHYS 2214 or the more mathematically rigorous versions PHYS 1116 -PHYS 2217 -PHYS 2218.

Courses beyond the introductory level that may be of interest to nonmajors include PHYS 3316 Basics of Quantum Mechanics, and PHYS 3360 Electronic Circuits.

General education courses currently include PHYS 1201 Why the Sky Is Blue: Aspects of the Physical World, PHYS 1203 Physics of the Heavens and the Earth, and PHYS 1204 Physics of Musical Sound.

Students may obtain advanced placement credit and transfer credit for physics courses taken elsewhere. Students seeking transfer credit should read the instructions at physics.cornell.edu/transfer-credit (http://physics.cornell.edu/transfer-credit/). Students seeking advice on the use of AP credit should consult with the director of undergraduate studies.

University Graduation Requirements Requirements for All Students

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

Academic Requirements

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

Non-academic Requirements

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

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

Additional Requirements for Undergraduate Students

The University has two requirements for graduation that must be fulfilled by all undergraduate students: the swim requirement, and completion of two physical education courses. For additional information about fulfilling University Graduation Requirements, see the Physical Education website (https://scl.cornell.edu/pe/).

Physical Education

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

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

Swim Requirement

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

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

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

College of Arts and Sciences Graduation Requirements

Undergraduate Degrees

Graduation Requirements for the Bachelor of Arts Degree

Credit Requirement: 120 academic credits are required, 100 of which must be taken in the College of Arts & Sciences. 100 credits in Arts & Sciences is a minimum number, as is the 120 credit total. A minimum of 80 credits must be in courses for which a letter grade was received. AP, IB, CASE and A-Level credits count toward the 120 total credits but not toward the 100 A&S credits. Transfer credits for non-transfer students cannot count towards the 100 A&S credits. (See list of courses (https://as.cornell.edu/registrar/courses-that-dont-count/) that do not count as academic credit.)

Residency Requirement: eight full-time semesters in residence (in person) are expected to complete degree requirements with a minimum of six full-time semesters being required. External transfer students must complete a minimum of four full-time residence semesters.

First-year Writing Seminar (FWS) Requirement: two courses are required. A 5 on either the AP English Composition or Literature exam, or a 7 on the IB HL English Literature or Language exam will count towards one of these seminars. First-year students should take an FWS during their first semester at Cornell and are required to complete two by the end of their sophomore year.

Foreign Language Requirement: a student must either pass an intermediate Cornell language course at the 2000-level or above (Option

1) or complete at least 11 credits in a single foreign language at Cornell (Option 2). AP and IB credits cannot complete this requirement, but usually indicate that a student can place into a higher level course. Note: Native speakers of a foreign language may be exempted from this requirement. For a list of language offerings and placement, see Language Study at Cornell.

Distribution Requirement: Must take a minimum of 8 courses of at least 3 credits to fulfill 10 distribution categories. How an individual course is categorized is indicated with the appropriate abbreviation in its course description. It is important to recognize that only courses with the proper designation in the catalog can be used toward fulfilling the distribution requirements in Arts and Sciences. Unless otherwise specified, variable credit courses, including independent study courses, may not be used for distribution credit.

Arts & Sciences Distribution Requirement Categories:

- Arts, Literature, and Culture (ALC-AS)
- Biological Sciences (BIO-AS)
- Ethics and the Mind (ETM-AS)
- Global Citizenship (GLC-AS)
- Historical Analysis (HST-AS)
- Physical Sciences (PHS-AS)
- Social Difference (SCD-AS)
- Social Sciences (SSC-AS)
- Statistics and Data Science (SDS-AS)
- Symbolic and Mathematical Reasoning (SMR-AS)

Distribution Requirement Definitions

Arts, Literature, and Culture (ALC-AS)
Courses in this area examine arts, literature, and culture in various contexts. Students gain insights into the interplay of individual or collaborative creativity and social practice, and understand the complexities of the expression of the human condition. Topics include the analysis of artworks and literary texts, and the belief systems of social groups, cultures, and civilizations; they also focus on artistic expression itself (in creative writing, performing arts, and media such as film and video).

Biological Sciences (BIO-AS)
Courses in this area focus on understanding a wide range of life forms, from single cells to plants, animals, and their ecosystems. Topics include the molecular and biochemical makeup of life, the sub-cellular, cellular and organismal structures of life, and the evolutionary relatedness of all life forms. Students learn to describe how organisms are connected to each other and to their physical environment. Many courses address how genetic information is expressed from DNA, and how this expression leads to complex function and behavior.

Ethics and the Mind (ETM-AS)
Courses in this area investigate the human mind and its capacities, ranging from cognitive faculties shared by humans and animals such as perception, to language and abstract reasoning, to the ability to form and justify ethical values. Courses investigating the mind may use the methodologies of psychology, linguistics, or philosophy. Those focusing on ethics explore ways of reflecting on questions that concern the nature of justice, the good life, or human values in general. Many courses combine these topics and methodologies.

Global Citizenship (GLC-AS)
Courses in this area examine the history, culture, politics, religion, and social relations of peoples in different parts of the world, as well as their interactions. They encourage students to think broadly about the global community and their place within it, beyond the boundaries of their particular national or cultural group, and cultivate skills of intercultural engagement that are vital to their role as global citizens. These courses introduce students to global challenges such as war and peace, social and economic inequalities, international migration, and environmental sustainability, and encourage students to think critically about international responses to these challenges.

Historical Analysis (HST-AS)
Courses in this area train students in the analysis of documentary, material, and oral evidence about social phenomena, institutions, events and ideas of the past. Students learn to evaluate and critically assess differing analyses and interpretations of former times so that they may acquire a better understanding of the origins and evolution of the present. Questions addressed in HA courses include why and under what circumstances changes have occurred in how people have interacted with one another and with the environments in which they live.

Physical Sciences (PHS-AS)
Courses satisfying this requirement provide an appreciation of how science generates and categorizes enduring knowledge of our physical world. This includes the physics, chemistry, and technology involved, of everything from light to atoms, DNA molecules, Earth science, our Solar system, and to the Cosmos. These courses expose students to both the process and some of the substance of science. By learning the universal aspects of scientific enquiry, students will be better equipped to form opinions on scientific issues that affect the world.

Social Difference (SCD-AS)
Courses in this area examine social differences relevant to the human experience. Social categories include class, race, ethnicity, indigeneity, nationality, language, religion, gender, sexuality, and ability as objects of study. Students develop a deeper understanding of these categories and their intersections. Topics may include: how hierarchies in power and status shape social differences; how social, economic and political systems can impact the interpretation of social differences; and how differences attributed to various groups are explained.

Social Sciences (SSC-AS)
Courses in this area examine social, economic, political, psychological, demographic, linguistic, and relational processes. Topics include understanding how different social contexts, for example neighborhoods, families, markets, networks, or political organizations, shape social life. Students learn to identify, describe, and explain the causes and consequences of social phenomena using quantitative and/or qualitative evidence based on systematic observation of the social world. They also learn to link evidence to theory through rigorous and transparent reasoning, and/or reflect critically on the concepts through which people make sense of the social world.

Statistics and Data Science (SDS-AS)
Courses in this area develop data literacy, essential to be an informed citizen in today's world. Students learn and apply statistical and computational techniques to effectively collect, visualize, analyze and interpret data, and present conclusions. Applications span a wide variety of contexts: providing a better understanding of the communities in which we live, guiding and enriching our lives, and driving forward scientific inquiry. Students gain an appreciation of how to ask the right questions, and how statistics can depend on the context, assumptions, and limitations of data.

Symbolic and Mathematical Reasoning (SMR-AS)

Courses satisfying this requirement help students develop the skills to solve problems through understanding abstract, logical relationships. Such skills include mathematical analysis of patterns and phenomena, modeling natural and technological systems, and creating algorithms essential to computation. These courses explore specific quantitative and symbolic methods, strategies for applying logical reasoning in diverse areas, and the intrinsic elegance of mathematics.

Major Requirement: students must complete the requirements for at least one major in A&S. See individual major listings for major requirements.

Physical Education Requirement: completion of the university requirement of two PE courses and passing the swim test. Note: physical education credit is not academic credit and does not count toward the 120 credits needed to graduate.

Policies on Applying Cornell and Non-Cornell Courses and Credits to Distribution Requirements

Restrictions on Applying AP/Test Credit and Courses from Other Institutions to the Distribution Requirements

- Students may not apply AP/test credit or transfer credit from another institution to the distribution requirements.
- Students who transfer to the college from another institution are under the above rules for advanced placement credit, but are eligible to have credit for post–high school course work taken during regular full-time semesters (not summer terms) at their previous institution count toward all distribution requirements. Transfer students receive a detailed credit evaluation when they are accepted for admission.

Restrictions on Applying Cornell Courses to the Distribution Requirements

- First-year writing seminars and ENGL 2880 Expository Writing or ENGL 2890 taken to satisfy a first-year writing seminar requirement may not count toward any other college or major requirement.
- Only courses with the proper designation in the Courses of Study can be used toward fulfilling the distribution requirements in Arts and Sciences.
- Students may not petition to change the category of any given course, nor may any faculty member change the category of a course for an individual student. Faculty members wishing to change the category for a course in which they are the primary instructor must petition the Educational Policy Committee for a change in category. If granted, the new category must be applied to the course as a whole and not for an individual student.

Courses That May Fulfill More Than One Requirement

- A course may fulfill more than one college requirement in any of the following situations:
- A course may be used to fulfill distribution and a major requirement (except if prohibited by one of the restrictions noted on applying AP/test credit, transfer credit, and Cornell courses to distribution requirements).
- A course may satisfy a maximum of two distribution categories. Students can only double-count distribution requirements on a maximum of two courses.
- A one-semester course in foreign literature (not language) or culture that is acceptable for certifying option 1 in that language may also be applied to the relevant distribution requirement.
- Courses may count toward any other requirement except first-year writing seminars.

Credit Requirement

Credits and Courses: Students must earn a minimum of 120 academic credits (which may include AP/test credits). Of the 120, a minimum of 100 must be from courses taken in the College of Arts and Sciences at Cornell.

Courses that do not count toward the 120 credits required for the degree. The College of Arts and Sciences does not grant credit toward the degree for every course offered by the university. Courses in military training, service as a teaching assistant, physical education, remedial or developmental training, precalculus mathematics, supplemental science and mathematics, offered by the Learning Strategies Center, and English as a second language are among those for which degree credit is not awarded. Students can view the list of courses that do not count for academic credit here (https://as.cornell.edu/registrar/courses-that-dont-count/).

Other cases in which a course may not receive credit include the following:

- A course identified as a prerequisite for a subsequent course may not be taken for credit once a student completes that subsequent course.
- A repeated course. (For more information, see "Repeating courses," below.)
- A "forbidden overlap," that is, a course with material that significantly overlaps with material in a course a student has already taken. Students should consult the list of Forbidden Overlaps for more information.

Courses that count toward the 100 required Arts and Sciences credits may include liberal arts courses approved for study abroad during a semester or academic year of full-time study (not summer abroad study), courses taken in certain off-campus Cornell residential programs, and a maximum of three courses that majors may accept from other colleges at Cornell as fulfilling major requirements. A&S courses taken in Cornell's summer session may count towards the 100 A&S credits.

Courses that do not count toward the 100 required Arts and Sciences credits include credits earned in other colleges at Cornell (except in the cases specifically noted in this section), transfer credits earned in any subject at institutions other than Cornell, and advanced placement/test credits. AP/test credits count as part of the 120 credits required for the degree but not as part of the 100 Arts and Sciences credits and may not be applied to distribution requirements. AP credits are posted on the transcript. If, subsequently, a student takes the course out of which they had placed, the AP credit will be removed because of the overlap in content.

Repeating Courses

Students occasionally need to repeat courses. Some courses, such as independent study, some music and performance courses, and specific topical seminars, in which content is significantly different, do grant credit when the course is taken more than once. For all repeated courses, both grades appear on the transcript and are included in both the term and cumulative GPA. For repeated courses that do not grant credit more than once, only one instance counts toward degree credits and requirements.

Residency Requirement

The College of Arts & Sciences is a residential community and students typically spend eight semesters of full-time study in residence to earn the B.A. degree.

The completion of a fall or spring term as a full-time registered student at Cornell counts as a semester in residence. Summer and winter terms at Cornell, study in Cornell's School of Continuing Education and at other institutions do not count as semesters of residence.

The residency requirement has two components: a minimum number of semesters in residence and a requirement to spend the last full-time semester of study in residence.

Students matriculating into the College of Arts & Sciences as first-year students must have a minimum of six semesters in residence before graduating. First-year matriculants into A&S can count up to two semesters in an approved off-campus program as semesters in residence. Approved off-campus programs include A&S approved study abroad programs, Cornell in Washington, Cornell in Rome, and the Cornell-China & Asia-Pacific Studies (CAPS) Program.

Students who transfer into the College of Arts & Sciences after matriculating in their first-year in another Cornell college (internal transfers) must have a minimum of six semesters in residence, and a minimum of two semesters in the College of Arts and Sciences before graduating. Internal transfers can count up to two semesters in an approved off-campus program as semesters in residence.

Students who transfer into Cornell from another institution (external transfers) must have a minimum of four semesters in residence, and a minimum of two semesters in the College of Arts & Sciences, before graduating. External transfers can count up to one semester in an approved off-campus program as a semester in residence.

In addition to the minimum number of semesters in residence, all students must complete their final full-time semester of study (i.e., the last semester in which at least 9 academic credits are needed to meet graduation requirements) in residence. Students who have fewer than 9 credits to complete degree requirements, and have met the minimum number of semesters residency requirement, may elect to complete their degree requirements during Cornell summer and winter terms registered as an A&S student or at another institution with approved transfer credit. Students cannot meet final degree requirements registered as an extramural student at Cornell.

Exceptions to the residence requirement are not petitionable.

Foreign Language Requirement

The faculty considers competence in a foreign language essential for an educated person. Studying a language other than one's own helps students understand the dynamics of language, our fundamental intellectual tool, and enables students to understand another culture. The sooner a student acquires this competence, the sooner it will be useful. Hence, work toward the foreign language requirement should be undertaken in the first two years. Students postponing the language requirement for junior and senior years risk not graduating on time. Courses in foreign languages and/or literature are taught in the College of Arts and Sciences by the following departments: Africana Studies and Research Center, Asian Studies, Classics, Comparative Literature, German Studies, Linguistics, Near Eastern Studies, and Romance Studies. For a list of languages and placement see Language Study at Cornell.

The language requirement may be satisfied in one of the following ways:

Option 1 (FLOPI): Passing (a) a non-introductory foreign language course of 3 or more credits at Cornell at the 2000-level or above or (b) any other non-introductory course at the 2000-level or above conducted in a foreign language at Cornell. OR

Option 2: Passing at least 11 credits of study in a single foreign language (taken in the appropriate sequence) at Cornell.

Any exceptions to these rules will be noted elsewhere in individual department descriptions.

Students whose speaking, reading, and writing competence in a language other than English is at the same level we would expect our entering first-year students to have in English (as shown by completing high school in that language or by special examination during their first year here at Cornell) are exempt from the college's language requirement.

Major Requirement

Most departments and programs specify certain prerequisites for admission to the major; they are found on the pages for each department and program available at Degree Programs.

Students may apply for acceptance into the major as soon as they have completed the prerequisites and are confident of their choice. This may be as early as the second semester of their first year, and must be no later than the end of the second semester of sophomore year. A student without a major at the beginning of the junior year is not making satisfactory progress toward the degree and risks not being allowed to continue in the college. Undeclared first-term juniors must file a Late Declaration of Major form with Student Services and may be placed on a leave of absence during their junior year if they have not yet declared a major.

Double Majors

Completion of one major is required for graduation. Some students choose to complete more than one major. No special permission or procedure is required; students simply become accepted into multiple majors and are assigned to an advisor in each department. All completed majors are posted on the official transcript. Students are not allowed to continue their studies past their eighth semester to complete additional majors.

Early and Delayed Graduation

Graduating Early

A student may elect to graduate early if they are able to complete all graduation requirements in fewer than eight semesters.

Students must still satisfy the college's residency requirement as part of the graduation requirements. This residency requirement requires that students who are first-year matriculants into Cornell spend a minimum of six semesters in residence, external transfers must spend a minimum of four. To request an early graduation, students must notify the A&S Registrar's Office in KG 17 Klarman Hall or at as-studentservices@cornell.edu (as-studentservices@cornell.edu?subject=Early%20Graduation%20Request).

The earliest a student can request to graduate early and officially change their graduation date is immediately following the pre-enrollment period for their anticipated final semester. The student should have pre-enrolled in the classes required to meet the graduation requirements by the

requested graduation date. The student must then complete Part I in DUST and have Part II completed by their major advisor.

Graduating Late: Ninth Term Enrollment

The Bachelor of Arts degree is expected to be completed in eight terms. If degree requirements cannot be completed in eight terms, students may seek permission to continue their studies. Requests will only be granted for students who have found themselves in emergent circumstances beyond their control which have prevented them from completing the degree in eight terms. Requests cannot be made until a student's final expected graduation term and will not be reviewed and approved until after the university drop deadline for that semester. Study beyond the eighth term is not automatically granted for the purposes of changing a major. Such requests must be discussed with a college academic advisor and require registrar approval. Requests to add an additional major or minor will not be approved for study beyond the eighth term.

If approved, students in the ninth and tenth term will be on a conditional status and will have restrictions placed on their enrollment to ensure successful completion of their degree. To request a ninth term, students must have their faculty advisor update Part II for any remaining major requirements. They will also need to submit a study plan to their college advisor listing the specific courses that will meet degree requirements for one major.

Student may elect to prorate credits if enrolling in 9 or fewer credits or take a full-time load if they desire. However, enrollment will be limited to 18 credits for the term so students can focus on their remaining required courses. In the rare case where a student may need to enroll in a tenth term to complete their degree, they will be required to prorate tuition and their enrollment will be limited to only the courses/credits needed for successful completion of one major. Additional enrollments will not be allowed.

Graduation Procedures

Application to Graduate

In the first semester of their senior year, students are prompted by Arts & Sciences Student Services to complete an online application to graduate. The application is intended to help seniors identify problems early enough in the final year to make any necessary changes in course selection to satisfy those requirements. Nonetheless, ensuring graduation requirements are fully met is the student's responsibility and any problems that are discovered, even late in the final semester, must be resolved by the student before the degree can be granted. Students are responsible for checking their DUST (https://data.arts.cornell.edu/as-stus/degree_reqts.cfm) reports and transcripts each term and alerting Student Services of any problems with their academic record. To check on their progress in the major, students should consult with their major advisors.

Degree Dates

Cornell has three official degree conferral dates in the year: December, May, and August. Students who plan to graduate in August may attend commencement ceremonies in the preceding or subsequent May. Students graduating in December are invited to a special recognition ceremony in December and may also attend Commencement the following May. All academic work must be complete by the official conferral date in order to receive a degree on that date. Incomplete academic work will result in a later conferral date.

Honors

Notice: beginning with the December 2026 conferral date, Cornell University will institute a standardized Latin Honors system based solely on final cumulative undergraduate GPA. The Latin Honors categories include: Summa Cum Laude (top 5%), Magna Cum Laude (next 10%), and Cum Laude (next 15%).

The student's cumulative undergraduate GPA percentile at the time of degree conferral will be computed with respect to the student's particular college. Existing college-specific Latin Honors systems not based upon the new standardized criteria will be discontinued at the end of Summer 2026. This will apply to all major honors in Arts & Sciences as they will no longer use Latin Honors and will award "Honors in X" (e.g. Honors in Chemistry, Honors in English, etc.) Please see Graduation and Academic Honors for more information.

Bachelor of Arts with Honors

Almost all departments offer honors programs for students who have demonstrated exceptional accomplishment in the major and succeeded in research. The conferring of honors, and the requirements for conferral (cum laude, magna cum laude, or summa cum laude) are set by the departments for each major, the Independent Major Program, or the College Scholar Program. Minors do not offer honors programs. Students should contact the Director of Undergraduate Studies (https://as.cornell.edu/about/directors-undergraduate-study/) with questions about honors in the respective program.

Bachelor of Arts with Distinction

The degree of Bachelor of Arts with distinction in all subjects will be conferred on students who have completed the requirements for the degree of Bachelor of Arts, if they have met the following requirements by the end of their final semester:

1. completed at least 60 credits while registered in regular sessions at Cornell;
2. achieved a GPA in the upper 30 percent of their class at the end of the seventh semester, or next-to-last semester for transfers and accelerants;
3. received a grade below C– in no more than one course;
4. received no failing grade (excluding PE);
5. have no frozen Incompletes on their records; and
6. maintained good academic standing, including completing a full schedule of at least 12 academic credits, in each of their last four semesters. (Students who have been approved to have prorated tuition for their final semester are considered to be in good academic standing).