Neurobiology, BS

Major Programs

The Department of Biology offers four majors: Biology (http://coursecatalog.georgetown.edu/programs/biology-bs/), Biology of Global Health (http://coursecatalog.georgetown.edu/programs/biology-global-health-bs/), Environmental Biology, (http://coursecatalog.georgetown.edu/programs/environmental-biology-bs/) and Neurobiology. These majors are designed to educate students in the breadth of subject matter encompassed by the biological sciences, including advances in knowledge at the forefront of this discipline. Graduates will be well prepared for advanced study in biological sciences, medicine, public health, education, science policy, or law, as well as professional careers in business and biotechnology.

The First and Second Years

Entering the Program, Choosing the Major, and Advising

First-year students enter the program as Biology majors; specific majors within the department are declared in the fall semester of the second year. Students receive an academic advisor from among the faculty in the Department of Biology who will work with them during their first year and beyond. Transfer students should see the Director of Undergraduate Studies to be assigned an advisor.

Declaration Deadlines: If you are declaring any of the majors within Biology, you must declare by October 20th during the Fall term and March 1st during the Spring term.

During the first year, in addition to core requirements/courses in the liberal arts, students generally enroll in Foundations in Biology I and II (which may be taken in either order), General Chemistry I and II, Calculus I, and either Probability and Statistics or Calculus II. We strongly recommend that students enroll in no more than four courses in their first semester (e.g., Foundations in Biology I and II with lab, General Chemistry with lab, a math course, and one core requirement). Students may also choose to defer Chemistry or Math until the second year in order to ease the transition to college-level work. Consult with your advising dean and your departmental advisor in order to determine the most appropriate plan.

During the fall term of the second year, all students will submit a declaration comprising an essay of no more than 250 words and an academic plan that proposes future coursework to fulfill the specific requirements of their chosen major. At this time, students are asked to choose which of the four majors within the department they plan to formally declare: Biology, Biology of Global Health, Environmental Biology, or Neurobiology. Students will be assigned new academic advisors who will meet with the students each semester to ensure that their academic plans are compatible with the goals of the major. Students should take the Gateway class for their declared major in the spring of their second year.

Second-year students who are undeclared or are considering changing majors may also declare any of the majors offered through the Department during the fall term and are generally not at a significant curricular disadvantage relative to other students. Interested transfer students or third-year students can also declare a major in the Biology department, but they must pay close attention to their four-year plan and ascertain that they will be able to complete the coursework for their proposed major.

Learning Goals and Research

The Department of Biology has developed a set of learning goals for majors in the department, outlined below and detailed on the Department web site. The first five learning goals are grouped as “Insight into the Process and Product of Science.” These focus on the process of science, to emphasize our belief that the goal of a biology education is to enable students to make creative use of their knowledge. The second five learning goals are grouped as “Fundamental Biological Concepts.” The learning goals are:

1. Integrate new knowledge into existing intellectual frameworks.
2. Engage with scientific inquiry.
3. Represent and interpret data in quantitative and statistically meaningful forms.
4. Communicate scientific understanding in oral and written forms.
5. Appreciate the epistemology of science.
6. Understand the organization of molecular, cellular, organismal and ecological systems.
7. Appreciate evolution as a framework for understanding biological systems.
8. Understand the flow of biological information.
9. Work with the flow of energy and matter in biological systems.
10. Understand the interdependence and interactions within biological systems and their emergent properties.

Two themes arise from the five fundamental biological concepts. First, all of biology operates under constraints defined by our understanding of math, physics, and chemistry; it is therefore essential that majors have a strong foundational understanding of both the concepts and the “ways of knowing” in these fields. Second, all of biology operates under the constraints of the mechanisms of evolution; it is therefore essential that majors have a strong foundational understanding of the theories, evidence, and mechanisms of evolution.

The Biology Department also supports two additional learning frameworks: Integrated Writing (https://biology.georgetown.edu/undergraduate/integrated-writing/) (or Writing in the Discipline) and Integrated Quantitation (https://biology.georgetown.edu/undergraduate/integrated-quantitation/) (or Quantitative Reasoning in the Discipline).

Research

Research Intensive Senior Experience (RISE)

The Department of Biology encourages its majors to engage deeply in the subject of biology through a capstone project as a senior. Students can opt to conduct a research project through the RISE program that will earn credit toward any of the four Biology majors.

Majors work with a faculty mentor to:

1. conduct an independent laboratory, field, or computational research project;
2. build from an internship experience to conduct critical in-depth research of the literature or publicly available data; or
3. teach biology and conduct research in the community.

Many students begin research before the senior year, some as early as their first year. Students who start their research early (often in the junior year) can earn up to three credits that apply towards the major (BIOL 4950, Research Tutorial) and up to three additional credits that apply as College elective credits but do not count towards the major (BIOL 4997, Continuing Research). Students interested in research during the senior year will take RISE-I (BIOL 4951) in the fall and RISE-II (BIOL 4952) in the spring. Note that enrollments in all RISE and tutorial courses is by permission of instructor only, so students must consult with a Biology faculty member in order to be enrolled in these options. With approval of a faculty advisor within the Department, research also may be conducted in laboratories outside the Department of Biology, including other departments within the College, laboratories at the GU Medical Center, or in the greater DC area, including the National Institutes of Health, the Smithsonian Institution, the National Zoo, etc.

Study Abroad

Majors from the Department of Biology can study abroad and transfer credits to the majors. All majors are encouraged to consider building a summer or semester abroad into their undergraduate programs. Although not a specific requirement, the perspective gained from the international experience is of value to all majors. Students should plan early and discuss their plans with their departmental advisor, their Dean, and the Office of Global Education (https://studyabroad.georgetown.edu/). Biology courses successfully completed while studying abroad may count toward the credit requirements for the majors in Biology when specifically approved by the Department in advance. No more than two courses per semester taken abroad may be counted towards the major.

Pre-health Studies (medicine, dentistry, etc.)

At Georgetown, pre-health is a set of courses, not a major or degree program. Each of the majors offered through the Department of Biology provides students with a strong foundation in science and a significant overlap with the pre-health program requirements. For more information, students can consult Georgetown’s pre-health website.

Transfer students

Transfer students who did not take introductory biology courses with lab(s) are required to take one elective course with lab or experiential component for each introductory lab course missed. These are generally 4-credit courses. For Biology majors, these are in addition to the lab courses for the "Molecules" and "Populations" requirements. Independent research in RISE, research tutorial, and pop-up labs do not fulfill this requirement; it should be a taught lab course. Transfer students who lack introductory biology lab(s) and who become Biology minors are required to take one elective course with lab or experiential component.

In addition, if a transfer student enters with <10 credits from Foundations in Biology I or II equivalents, they should take additional electives (including the lab courses noted above) to fulfill the total number of credits required for their major or minor.

Major in Neurobiology

Changes to the Neurobiology major have been implemented for students starting the major in 2026. For students starting in previous years, please see the Bulle (https://bulletin.georgetown.edu/gu-undergraduate-bulletin-archives/)tin Archives (http://coursecatalog.georgetown.edu/appendices/bulletin-archives/).

Given our rapidly evolving understanding of the brain as mind, study of the nervous system is considered one of the great frontiers in science today. Within the broader area of Neuroscience, Neurobiology focuses on the molecules, cells, and circuits that promote brain function. The Neurobiology major is designed to educate students in the foundations of biology and neurobiology while providing opportunities for advanced study on a range of disciplines, from cell, molecular, and developmental neuroscience to cognitive science and psychology as well as the intersections of these disciplines.

Students interested in the Neurobiology major typically enter the program as Biology majors. Students declare their intention to join the major in the fall of the second year. In spring of the second year, students take Neurobiology (BIOL 1950). This course is a communication-intensive course that satisfies the University Integrated Writing requirement. In subsequent years, a series of four additional required courses as well as electives to develop depth in neurobiology are required. The Biology Department also offers 1-credit courses that may count as Neurobiology elective credits.

Advanced Placement (AP) and International Baccalaureate (IB) Credit

For students who choose to major in Neurobiology, credit from either the AP Biology Exam or IB Higher Level Biology will be counted toward the major. If a student has taken both these exams, only one will count toward the major. The AP Environmental Science Exam will not count toward the Neurobiology major, (i.e., majors in Neurobiology will not be granted credit towards the major for the AP Environmental Science exam, although they will receive elective credit toward their degree).

- For an AP score of 5 on the Biology exam, students will receive four credits, two of which will be applied to the total credits required for the major. For an AP score of 4, students will receive three credits, one of which will be applied to the total credits required for the major. No credit is awarded for an AP score of 3.
- For the IB program, students will receive credit from the Higher Level Biology but not the Standard Level. For a score of 6 or 7, students receive four credits, two of which will apply to the major. No credit is awarded for an IB score of 5 or below.
- Regardless of AP or IB score, all majors are required to take BIOL 1203/BIOL 1213 (Foundations in Biology I with laboratory) and BIOL 1204/BIOL 1214 (Foundations in Biology II with laboratory). The equivalent summer courses are BIOL 1205/BIOL 1215 and BIOL 1206/BIOL 1216, respectively, and can be used to fulfill this requirement in place of the Academic Year courses.

Contact Information

Please contact the Director of Undergraduate Students and Studies in Biology with general questions about the majors or minor. This information may be found on the Department website (https://biology.georgetown.edu (http://biology.georgetown.edu/)).

(For course listings for Biology see the Schedule of Classes (https://schedule.georgetown.edu/))

Requirements

Courses for the Neurobiology Major

Required Biology Courses (18 credits)

Code	Title	Credits
BIOL 1203 & BIOL 1213	Foundations in Biology I and Foundations in Biology I - Lab [1]	5
BIOL 1204 & BIOL 1214	Foundations in Biology II and Foundations in Biology II- Lab [1]	5
BIOL 1950	Neurobiology	4
BIOL 3798	Synaptic Transmission	3
BIOL 4960	Neurobiology Senior Seminar	1
Total Credits		**18**

[1] Note that despite the numbering, these two courses may be taken in either order. The equivalent summer courses areBIOL 1205 /BIOL 1215 and BIOL 1206/BIOL 1216, respectively, and can be used to fulfill this requirement in place of the Academic Year courses.

Students must choose 3 of the following 5 neurobiology core courses (9 credits).

Code	Title	Credits
BIOL 3799	Developmental Neurobiology	3
BIOL 3800	Sensory Systems	3
BIOL 4140	Neurodisorders	3
BIOL 4704	The Dynamic Brain	3
BIOL 1750	Mammalian Physiology	3

Elective Courses for the Neurobiology Major (21 credits)

Enrollment in graduate-level courses (numbered 5000 and above) is at the discretion of the instructor. No more than two courses from Group B (Psychology and Animal Behavior classes) can count as Neurobiology electives, unless they are part of a student's Interdisciplinary Group choice. Students may take up to 3 credits from Group C and up to 3 credits from the Interdisciplinary Group. Groups B, C, and the Interdisciplinary Group are not required. Space permitting, students may enroll in additional neurobiology core courses as Group A electives if they have already taken 3 of 5.

Students should note that course offerings change frequently, most courses are offered in only a single semester each year, and not all courses are offered every year. Furthermore, courses offered outside of Biology may have limited enrollments for Neurobiology majors, and some courses may have prerequisites not listed here or may require permission of the instructor. Students should talk with their advising dean and faculty advisor and also look carefully on the Registrar's websites to identify course offerings.

Group A

Code	Title	Credits
BIOL 1760 & BIOL 1750	Mammalian Physiology Lab and Mammalian Physiology	4
BIOL 1510 & BIOL 1511	Biological Chemistry and Biological Chemistry Lab	4
BIOL 1520	Genetics	4
BIOL 3615	Genomics & Bioinformatics	3
BIOL 3635	Genetic Conflict	3
BIOL 3700	Infection & Immunity	3
BIOL 3701	Cell Biology	3
BIOL 3702	Molecular Biology	3
BIOL 3730	Developmental Biology	3
BIOL 4240	Advanced Development	3
BIOL 4615	Modeling Populations &Diseases	4
BIOL 4707	Unsung Receptors	3
BIOL 4711	Advanced Molecular Biology	3
BIOL 4750	Cell Biology of Cancer	3
BIOL 4950	Research Tutorial	0-3
BIOL 4951	RISE-I: Rsrch Intsv Sr Exprnce	3
BIOL 4952	Resrch Intnsive Sr. Experience	3
NSCI 6007		3

Group B

Code	Title	Credits
BIOL 3275	Animal Behavior:Bees to Whales	3
PSYC 1000	General Psychology	3,4
PSYC 2000	Research Methods & Statistics	4
PSYC 2200	Physiological Psychology	3
PSYC 2300	Cognition: Info in the Brain	3
PSYC 2700	Psychological Disorders	3
PSYC 3200	Cognitive Neuroscience	3
PSYC 3210	Soc and Aff Neuroscience	3
PSYC 3300	The Psychology of Memory	3
PSYC 3610	Psychology of Aging	3

Group C

Code	Title	Credits
CHEM 2100	Organic Chemistry I	1-3
PHYS 2051	Principles of Physics	0-5
PHYS 2101	Mechanics	5
COSC 1020	Computer Science I	3
MATH 2625	Biostatistical Methods	3

Interdisciplinary Group

The Interdisciplinary Group is intended to allow students to reach beyond the conventions of our neurobiology major to where neuroscience meets other disciplines. Courses in this category require approval by the director of the neurobiology major; approvals will typically happen *en masse* during registration. Courses in this category are typically upper- or graduate level. As an example: Brain and Language (NSCI 6004).

Required Corollary Courses (18 credits)

Code	Title	Credits
CHEM 1100 & CHEM 1105	General Chemistry I and General Chemistry Lab	5

CHEM 1200 & CHEM 1205	General Chemistry II and Intermediate Chemistry Lab	5
MATH 1350	Calculus I	4
MATH 1360	Calculus II	4
MATH 1040	Probability and Statistics	4
or MATH 2140	Intro Math Statistics	

Core Curriculum

As explained in the main Core Curriculum (http://coursecatalog.georgetown.edu/academics/undergraduate-regulations/georgetown-core-curriculum-requirements/) section of this Bulletin, the Georgetown core curriculum has two tiers: the first tier is university-wide, shared by each of the five undergraduate schools; the second is school-specific, and designed to embody the shared learning goals of the university core while at the same time furthering the specific mission and tradition of each school.

The University Core

The University Core, shared by all five undergraduate schools, anchors the undergraduate experience in the liberal arts disciplines of the College, in areas that nurture the intellect and the spirit, cultivating inquiry and critical reading, training a deeper sense of self within an expansive worldview. See below for the specific ways in which students in the College of Arts & Sciences fulfill these University Core requirements:

- Philosophy: 2 courses
- Theology and Religious Studies: 2 courses
- Writing: 2 courses[1]
- Humanities: Art, Literature, and Culture: 1 course
- Quantitative Reasoning and Data Literacy: 1 course
- Science for All: 1 course
- Pathways to Social Justice: 1-credit seminar and two overlay courses[2]

[1] The Writing requirement begins with WRIT 1150 Writing and Culture Seminar. The second course in the requirement is an Integrated Writing course embedded in the major.

[2] The two courses fulfilling the second half of the Pathways to Social Justice (PSJ) requirement may also fulfill other core requirements.

Philosophy

All students in the College of Arts & Sciences take two courses in philosophy, one in ethics and one in an area of general philosophy. Ethics courses include PHIL 1100 Introduction to Ethics and all PHIL courses numbered 2000-2499. General philosophy courses include PHIL 1500 Introduction to Philosophy and all PHIL courses numbered 2500-2999. The first philosophy course must be an introductory course (PHIL 1000-1999), ordinarily either PHIL 1100 or PHIL 1500. The second philosophy course must be at the 2000-level. Students may not fulfill the requirement with two 1000-level courses. Seniors are not permitted in introductory courses, so seniors who have not taken any philosophy previously must fulfill the requirement with two courses at the 2000-level. Acceptable sequences are:

1. PHIL 1100 followed by any course numbered PHIL 2500-2999.
2. PHIL 1500 followed by any course numbered PHIL 2000-2499.
3. For seniors who have not taken any philosophy previously only: one course from PHIL 2000-2499 and one course from PHIL 2500-2999.
4. For internal transfers from SFS only: PHIL 1900 followed by any course PHIL 2000-2999.

No course at the 3000-level or above may be used to fulfill the Core requirement in philosophy. All courses at the 3000-level or above have a prerequisite of two core courses in philosophy.

PHIL 1101 Intro to Environmental Ethics is an acceptable substitute for PHIL 1100; students who begin with PHIL 1101 may fulfill the second half of the requirement with any course numbered PHIL 2500-2999.

Theology and Religious Studies

Problem of God (THEO 1000) and a second course in Theology and Religious Studies (numbered THEO 1100-3999) fulfill the Theology and Religious Studies requirement. Introduction to Biblical Literature (THEO 1100) may be substituted for Problem of God or taken as the second course. Transfer students are exempt from the Problem of God requirement and may select any two courses in Theology and Religious Studies to fulfill this requirement.

Writing

Every student in the College of Arts & Sciences will take one writing course, WRIT 1150 Writing and Culture Seminar, that provides students with opportunities to connect their writing with critical reading and thinking, inquiry, and analysis.

The second half of the Writing Core is an intensive writing experience located within the student's chosen major, embedded within the requirements as determined by that program. The Integrated Writing requirement will prepare students to use the relevant forms, styles, and conventions of their chosen area(s) of study. Because writing reflects ways of thinking in academic practice, attention to writing in the major will enhance the student's learning of concepts, materials, and methods in their fields. Each major's Integrated Writing requirement is established by the department in order to express the unique conventions and practices of the discipline.

Humanities: Arts, Literature, Music, & Culture

Every student in the College of Arts & Sciences will take one course in the Humanities: Arts, Literature, Music, & Culture. Courses fulfilling this requirement are identified in the course schedule with the "Core:HALM-Hum,Art,Lit,Mus,&Med" attribute in the Schedule of Classes (https://schedule.georgetown.edu/).

Quantitative Reasoning and Data Literacy

Every student in the College of Arts & Sciences will take one course focused on Quantitative Reasoning and Data Literacy (QRDL). These courses are tagged with the "Core:Quant Reasng & Data Ltrcy" attribute in the Schedule of Classes.

Science For All

Every student in the College of Arts & Sciences will take one course to satisfy the Science for All requirement. These courses, identified by the "Science for All" attribute in the Schedule of Classes and varying by semester, aim to illustrate, in the context of a scientific discipline, how scientific understanding is developed, tested, and revised. Science For All courses will help and encourage students to understand better the significant role that science plays in their daily lives, and will include

examples of the use of scientific methods in addressing complex social problems and of the ethical issues that science can raise.

Pathways to Social Justice

All students in the College of Arts & Sciences will take CPSJ 1000[1] , the required one-credit University Seminar in Race, Power, and Justice at GU. Additionally, all students in the College will take two "overlay" courses tagged with the "Core: Pthways to Social Justice" attribute in the Schedule of Classes. Because the second half of the PSJ requirement is an overlay requirement, these two courses may also fulfill other core requirements.

[1] Note: This 1-credit course is offered twice each semester, and has a different number in each part of term: CPSJ 1000 in the first half of the fall semester; CPSJ 1001 in the second half of the fall semester; CPSJ 1002 in the first half of the spring semester; and CPSJ 1003 in the second half of the spring semester.

The College Core

The College Core supplements the University Core with a First-Year Seminar requirement and additional requirements in History, Social Science, and Language. These modes of inquiry and domains of knowledge are essential to our liberal arts curriculum and the formation of graduates of the College. See below for the specific ways in which students fulfill each of these three requirements.

- First-Year Seminar: 1 Course[1]
- History: 2 Courses
- Social Science: 2 Courses[2]
- Language: mastery of a second language through the intermediate level[3]

[1] The First-Year Seminar is an "overlay" requirement, which means that courses that fulfill the FYS requirement will also fulfill another core requirement.

[2] The Social Science requirement is waived for students pursuing a B.S. degree in certain science majors; see below for specifics.

[3] The number of courses and credits required to reach intermediate proficiency varies. Students beginning in a new language can fulfill the requirement in as few as 12 or as many as 24 credits.

First-Year Seminar

The First-Year Seminar (FYS) is a small, discussion-based course designed to introduce students to the intellectual community of the College and model the habits of mind central to a Jesuit education: rigorous inquiry, ethical reflection, and engaged dialogue.

All first-year students in the College of Arts & Sciences are required to take a FYS course. The majority of students will take the FYS in the fall semester, and will be pre-enrolled in a FYS based on their expressed interest. A smaller number of students, primarily those with a declared major in the sciences, will fulfill the FYS requirement in the spring semester of their first year. Note: transfer students are exempt from the FYS requirement.

Because the FYS requirement is an "overlay" requirement, each FYS will also fulfill at least one additional core requirement.

History

The study of history is one of the best ways to challenge one's ideas and assumptions about the world. Knowledge of history accomplishes this objective because it consists of the integrated study of all elements of the human experience as they change over time. The core requirement in History allows students to explore changes and continuities over time and to engage with the discipline of history as an evidence-based, interpretive, and analytical approach to research and knowledge.

The requirement consists of two courses, for which there is a menu of choices. One, **the survey,** covers the history of significant world regions over long time spans. This class offers students access to transnational and cross-cultural developments, raising their awareness of global themes and issues and leading them to examine the interaction of diverse cultures and groups. The vast geographic scope and long time spans covered in these courses also give students insight into the deep roots of contemporary globalization.

The other required course, HIST 1099, exposes students to the many components of the discipline of history through focused study of particular historical events, periods or themes. This course also leads students to consider questions of historical sources, analysis, and writing through focused study of specific developments and contexts.

All required History courses feature regular small-group discussion, through which students familiarize themselves with history as an analytical tool. In addition to engaged participation in discussions of primary and secondary sources, the courses also include substantive writing assignments. Altogether the courses thus help students hone their critical reading and writing skills, develop their ability to examine evidence, and improve their capacity for verbal and written argument.

History Core courses therefore both contribute to raising students into informed, thoughtful, and active modern citizens, and provide them with effective, useful skill sets for any career field.

To review: all students in the College are required to complete two one-semester courses in History: One broad survey (HIST 1100-1999) with linked discussion section; and one semester of HIST 1099 **(note:** HIST 1099 **has to be fulfilled at Georgetown and cannot be transferred).**

Students with advanced credit (e.g., AP or IB credit) in History may be able to fulfill the core requirement differently. See the Advanced Credit (http://coursecatalog.georgetown.edu/admissions/advanced-credit/) section of this Bulletin for full information.

Social Science

Social science is the systematic investigation of human society, including its cultural, economic, educational, governmental, and linguistic structures. Some approaches to social science are quantitative or experimental, while others are observational and interpretive; all examine the ways people think and act as members of social networks, how those networks function as complex systems, and how those systems in turn affect individual lives. Critical study of these familiar structures helps us question preconceptions and biases, guides us in examining the structures and institutions we take for granted, and leads us to greater understanding of the ways the world is organized.

All students except those majoring in Biochemistry, Biological Physics (B.S. only), Biology, Biology of Global Health, Chemistry, Environmental Biology, Neurobiology, or Physics (B.S. only), satisfy their social science requirement by taking two courses from one of the following departments: Anthropology, Economics, Government, Linguistics, Psychology, Public Policy, or Sociology. Note that students

may not fulfill the requirement with one course each in two different disciplines; the requirement is two courses in the same discipline/department.

In addition to courses offered by the Linguistics department, certain post-advanced language courses with special focus on linguistics (e.g., CHIN 2101 Intro to Chinese Linguistics; FREN 3595 Making Sense of Language; SPAN 3210 Intro to Spanish Linguistics) may count toward the social science requirement when paired with a Linguistics course.

Language

The study of a language, literature, and culture other than one's own enables a better understanding of the world. Language learning broadens horizons, expands minds, and enhances professional competence and personal engagement in a globalized world.

To be an effective cross-cultural communicator requires not only language proficiency, but awareness of literary and cultural traditions as well. Understanding language in all its forms, styles, and uses leads to more authentic relationships among diverse peoples.

All students in the College must study a second language (ancient or modern) through the intermediate level. During New Student Orientation, placement exams are offered in most languages. Students who do not place above the intermediate level of a language must fulfill the requirement by completing language coursework through the intermediate level. Please note that the number of courses required varies depending on the language family* and the intensity of instruction.

*In general, students must complete through the 12th credit of an Indo-European language or the 24th credit of other languages. Given the great diversity of languages, and the distinctness of their structures, challenges, and pedagogies, there are exceptions. As such, for languages routinely offered at Georgetown, the College's language requirement is satisfied by completing the specific "exit course" listed below:

Code	Title	Credits
ARAB 1112	Intens 2nd Lv Mod Stnd Arab II	6
CHIN 1512	Intens Second Lev Chinese II	6
or CHIN 1513	Intens 2nd Lev Chin:Adv Beginr	
FREN 1502	Intermediate French II	3
or FREN 1511	Intensive Intermediate French	
GERM 1502	Interm Germ II: Exper Germ	3
or GERM 1511	Intens Interm Germany	
CLSG 1511	Intermediate Greek	3,4
GREE 1511	Second Level Modern Greek I	3
HEBR 2002	Interm Modern Hebrew II	3
ITAL 1511	Ital Lang & Cult: Interm.	6
JAPN 1512	Intens Second Lev Japanese II	6
KREN 1512	Intens Second Lev Korean II	6
CLSL 1511	Intermediate Latin	3,4
PERS 1012	Intensive 1st Level Persian II	5,6
PLSH 1502	Intermediate Polish II	3
PORT 1500	Accelerated Portuguese	3
RUSS 1012	Intens First Level Russian II	6
SPAN 1522	Intermediate Spanish II	3
or SPAN 1532	Intensive Intermediate Spanish	
TURK 1502	Intermediate Turkish II	3

Students are strongly urged to complete the language requirement no later than the end of their sophomore year.

Please note that credit can only be earned once for language study at a given level; the College does not grant credit when levels of instruction are repeated. Language placement tests are recommended for any student who has begun language study elsewhere, whether high school, prior college, etc.

Students with advanced proficiency in a language not offered at Georgetown should contact their advising dean to inquire about the possibility of arranging a placement test in that language. In many cases, students will be referred to the American Council on the Teaching of Foreign Languages (ACTFL) to certify proficiency in languages not taught on campus.

Note: In general, students are expected to fulfill core requirements at Georgetown. When appropriate, students may receive prior approval from the Dean's Office to complete a core course away (e.g., study abroad or summer school). Certain requirements (e.g., HALM, SFA) as well as some specific courses (e.g., HIST 1099) must be completed at Georgetown. Additionally, one half of any two-course core requirement must be completed at Georgetown.

For more information about how advanced credit applies to core curriculum requirements, see the Advanced Credit (http://coursecatalog.georgetown.edu/admissions/advanced-credit/) section of this Bulletin.

Georgetown Core Curriculum

The Georgetown Core Curriculum (Georgetown Core) is a distinctive expression of Georgetown University's identity as a student-centered research university rooted in the Jesuit and Catholic tradition. The Georgetown Core is a two-tiered program. The first tier – the "shared core" – has been created and approved by the Main Campus Core Curriculum Committee and is shared by all undergraduates as a common core experience. The second tier of the requirement – the "school-specific core" – is designed and determined by each of the undergraduate schools, embodying the shared learning goals of the university Core while furthering the specific mission and tradition of each school. Both the shared and school-specific cores change over time, balancing the traditional ethos of a liberal arts education with the changing needs of our students in a changing world. Ultimately, it is the hope that the entirety of a Georgetown education – the cores, majors and minors, and electives – will lead students to embody as life-long habits the goals described in the Georgetown Core Curriculum Learning Goals (http://coursecatalog.georgetown.edu/academics/undergraduate-regulations/georgetown-core-curriculum-requirements/georgetown-core-curriculum-goals/).

More information about the Georgetown Core Curriculum can be found on the Provost's Core Curriculum website (https://provost.georgetown.edu/core-curriculum#University%20Core%20Requirements).

Georgetown Shared Core Requirements

The core requirements that form the first tier, the common experience across the University, are outlined below. Georgetown courses fulfilling each of these requirements are designated "Core: [specific

requirement]" in the Attributes in the Schedule of Classes (https://schedule.georgetown.edu/).

Philosophy – 2 Courses

Through the Core, the Philosophy Department is committed to providing courses that promote students' personal growth as human beings in search of meaningful lives, foster their development as responsible citizens, and offer effective introductions to the discipline of philosophy. The learning goals shared by courses in the Philosophy Core are:

- Understand what philosophy is, how it differs from other academic disciplines, and what its primary areas of inquiry are.
- Understand and construct arguments.
- Describe and analyze complex problems.
- Read, write and speak effectively.
- Engage critically and constructively with moral problems and decisions.
- Apply philosophical analysis, argumentation, and critical reflection to the study of other disciplines.

Please refer to each school/college curriculum for specific courses that will fulfill this requirement.

Theology and Religious Studies – 2 Courses

Through the Core, the Theology and Religious Studies Department is committed to fostering in students a critically appreciative awareness of the religious dimension of human existence, and to assisting students in reflecting upon their own experience and understanding in that enlarged context. The first course provides this foundation while the second course allows students to develop their critical awareness by applying it to a particular area of interest in religion or theology.

The learning goals shared by courses in the Theology and Religious Studies Core are:

- To consider reflectively your relationship to the world, your fellow humans, and God.
- To foster a critically appreciative awareness of the religious dimension of human existence.
- To assist you in reflecting upon your own experience and understanding in that enlarged context.
- To develop your critical awareness by applying it to a particular area of interest in religion or theology.

Problem of God[1] (THEO 1000) and one Theology and Religious Studies elective fulfill the Theology and Religious Studies requirement. Introduction to Biblical Literature (THEO 1100) may be substituted for Problem of God or may be used as an intermediate level elective.

[1] Transfer students are exempt from the Problem of God requirement and may select any two intermediate level courses, including Introduction to Biblical Literature, to fulfill the core requirement in Theology & Religious Studies.

Writing – 2 Courses

The writing requirement provides students with opportunities to connect their writing with critical reading and thinking, inquiry, and analysis. The Writing and Culture Seminar, WRIT 1150, approaches writing through three interrelated frameworks: writing as a tool for inquiry, writing as a process, and practice writing in different rhetorical situations. Each section focuses on a cultural theme, with readings and assignments that engage students with compelling questions and problems. Seminar readings provide texts for analysis as well as models and motives for student writing. Students are encouraged to complete this course during their first year at Georgetown. The learning goals shared by different sections in the Writing and Culture Seminar are:

- Experiment with diverse strategies for planning, drafting, and revising writing.
- Adapt writing to respond to, engage, and persuade audiences.
- Employ rhetorical strategies for analyzing, designing, and communicating in writing and other forms of media.
- Engage in writing as a form of thinking, inquiry, and learning.

The second half of the Writing Core is an intensive writing experience located within the student's chosen major, embedded within the requirements as determined by that program. Each major's Integrated Writing requirement is established by the department or program in order to express the unique conventions and practices of the discipline. The learning goals shared by courses in the Integrated Writing Core are:

- To prepare students to use the relevant forms, styles, and conventions of writing within their chosen major(s).
- To employ writing as a method to enhance students' learning of concepts, materials, and methods in their major.

Courses fulfilling this requirement are identified within each major.

Humanities: Art, Literature, Music, and Media (HALM) – 1 Course

(Formerly Humanities: Art, Literature and Culture (HALC))

The Humanities: Art, Literature, Music, and Media (HALM) requirement serves to deepen students' understanding and experience of a range of creative media representing cultural expressions from various historical periods and world regions, from the local to the global.

Through reading, listening, viewing, analyzing, writing, and/or creative practice, students acquire the intellectual and practical tools to interpret human experiences portrayed in the arts, literature, music, and media.

HALM Learning Goals:

- Understand how art, literature, music and/or media have historically shaped and been shaped by cultures.
- Develop generative habits of mind and exercise critical thinking skills for a world in flux: openness, resilience, curiosity, creativity, imagination.
- Activate knowledge through creative, analytical, and/or critical approaches in individual, collaborative, and/or public-facing projects.

HALM courses must be Georgetown University courses and cannot be fulfilled by transfer credits; they must be 3-credit courses. Courses that can fulfill other Core requirements (such as HIST, PHIL, THEO) are ineligible.

In 2026-27, the older "HALC" designation (Humanities: Arts, Literature, and Culture) will be replaced with HALM (Humanities: Arts,

Literature, Music and Media). For this academic year, courses with the designation will be tagged with both HALC and HALM. In Fall 2027, the tag HALC will be retired in favor of HALM.

Science For All – 1 Course

The natural sciences, and the technologies that they enable, are woven deeply into the fabric of our lives and are central to many of the important political and social challenges that we face. They are also pinnacles of intellectual accomplishment in humanity's ancient and ongoing quest to understand the world in which we live. Thus we believe that to function as liberally educated, ethically responsible citizens, as stewards of the planet, and as effective leaders, all Georgetown students should understand scientific modes of thought and concepts, both in the abstract and as they are exemplified in at least one major area of scientific inquiry. The Science For All (SFA) Core requirement is grounded in these beliefs. The learning goals shared by courses in the Science for All Core are:

- To understand the basic principles and some current research challenges of one or more areas of science.
- To understand science as a set of methods of inquiry that involve forming and testing hypotheses through the analysis of quantitative and qualitative data.
- To consume and interpret scientific information with critical understanding of the balance of certainty and uncertainty that research findings inevitably reflect.

Quantitative Reasoning and Data Literacy – 1 Course

This requirement applies only to students in the class of 2028 and later.

The Quantitative Reasoning and Data Literacy (QRDL) requirement will help students learn to understand how real-world interpretation of data progresses from a set of numbers, frequently incomplete and with measurement errors, to a visual distillation that clearly conveys meaning. While mathematics and statistics provide a necessary foundation for quantitative reasoning and data literacy, the power of pure mathematics lies in its abstraction. In contrast, QRDL emphasizes a distinctive variety of concrete contexts and applications. The learning goals shared by courses in the Quantitative Reasoning and Data Literacy Core are:

- To build a quantitative toolbox that allows students to become comfortable performing and/or evaluating quantitative analyses.
- To translate and make meaning of data and quantitative analyses as they apply to complex problems.
- To effectively communicate statistical methods and results both visually and textually to a diversity of audiences with considerations to contextual, social, or ethical issues.

Engaging Diversity/Pathways to Social Justice

For students in the class of 2025, 2026, or 2027

Engaging Diversity (2 courses)

All Georgetown students are required to take two Engaging Diversity courses as overlays, meaning that the courses may count toward another degree requirement (Core, major, or minor). One of these courses must be labeled with a "Core: Diversity Domestic" attribute and one must be labeled with a "Core: Diversity Global" attribute.

In courses designated as fulfilling a diversity requirement, students will engage with different cultures, beliefs, and ideas. These courses will explore conditions that contribute to unequal access and influence. Finally, these courses should enable students to reflect on their own identities as they also deepen their understanding of the experience of others. The learning goals shared by courses in the Engaging Diversity Core are:

- To prepare students to be responsible, reflective, self-aware and respectful global citizens through recognizing the plurality of human experience and engaging with different cultures, beliefs, and ideas.
- To be better able to appreciate and reflect upon how human diversity and human identities shape our experience and understanding of the world.

For students in the class of 2028 and later

Pathways to Social Justice (3 courses)

Georgetown's Pathways to Social Justice (PSJ) curriculum prepares students to critically analyze historical and contemporary power differentials. By fulfilling the Pathways to Social Justice requirement, students will gain a better understanding of how social, political, geographic, economic, and other cultural factors shape experiences of the world, as well as how these factors contribute to marginalization and inequality. PSJ courses will also explore how communities have resisted marginalization, and will focus on axes of identity that have formed the basis for historical and contemporary marginalization and oppression, including race, gender, class, caste, disability, religion, sexual orientation, and gender identity.

A cornerstone of this requirement is the one-credit University Seminar in Race, Power, and Justice which is designed to ensure that every student at Georgetown develops a baseline vocabulary for discussing racial difference and marginalization. This seminar will provide the foundation for each student's engagement with other PSJ-attributed "overlay" courses offered across Georgetown's Main Campus and should be taken in the first year.

In addition to the required one-credit University Seminar in Race, Power, and Justice, the requirement also requires students to take two overlay courses (meaning that these courses may count toward another degree requirement, whether core, major, or minor). Eligible courses have the "Core: PSJ" attribute.

Each course in the Pathways to Social Justice Core works toward at least three of these shared priorities:

- Inclusive Scholarship
- Intersectional Approaches to Identity
- Historical Legacies of Inequality and Their Contemporary Impacts
- National, Regional, and Global Comparisons
- Imagining Justice

Related Programs

- Biology Minor (http://coursecatalog.georgetown.edu/programs/biology-minor/)
- Biology of Global Health, BS (http://coursecatalog.georgetown.edu/programs/biology-global-health-bs/)

- Biology, BS (http://coursecatalog.georgetown.edu/programs/biology-bs/)
- Environmental Biology, BS (http://coursecatalog.georgetown.edu/programs/environmental-biology-bs/)