BACHELOR OF SCIENCE WITH A MAJOR IN NEUROSCIENCE

GW's Neuroscience program teaches the core concepts and methods involved in modern neuroscience. Through our program, you will be provided with a rigorous, interdisciplinary education in molecular, cellular, and cognitive neuroscience, resulting in a comprehensive understanding of the mechanisms and circuitry in the brain that drive behavioral outputs. Critically evaluating and applying the core experimental methods used in molecular neuroscience and neurobiology, you will become fluent in the core concepts, methods, and current literature involved with modern neuroscience—preparing you for advanced studies in graduate school, medicine, and other pre-health careers. Graduates can also go on to conduct research, teach, support government agencies, and work in the global or public health field.

For more information, visit the program website. (https://biology.columbian.gwu.edu/bs-neuroscience/)

ADMISSIONS

For more information on the admission process, please visit the Office of Undergraduate Admissions website (https://undergraduate.admissions.gwu.edu/). Applications may be submitted via the Common Application (https://go.gwu.edu/commonapp/).
Supporting documents not submitted online should be mailed to:
Office of Undergraduate Admissions
The George Washington University
800 21st Street NW, Suite 100
Washington DC 20052
Contact for questions:
gwadm@gwu.edu or 202-994-6040

REQUIREMENTS

The following requirements must be fulfilled:

The general requirements stated under Columbian College of Arts and Sciences, Undergraduate Programs (http://bulletin.gwu.edu/arts-sciences/#degreeregulationstext).

Program-specific curriculum:

Code	Title	Credits
Required		
38 or 41 credits (10 or 11 courses) in basic science [1]		
BISC 1111	Introductory Biology: Cells and Molecules	
BISC 1112	Introductory Biology: The Biology of Organisms	
BISC 2207	Genetics [2]	
or BISC 2202	Cell Biology	
CHEM 1111	General Chemistry I	
CHEM 1112	General Chemistry II	
CHEM 2151 & CHEM 2153	Organic Chemistry I and Organic Chemistry Laboratory I	
CHEM 2152 & CHEM 2154	Organic Chemistry II and Organic Chemistry Laboratory II	
PHYS 1025	University Physics I with Biological Applications	
or PHYS 1011	General Physics I	
or PHYS 1021	University Physics I	
PHYS 1026	University Physics II with Biological Applications	
or PHYS 1012	General Physics II	
or PHYS 1022	University Physics II	
MATH 1220 & MATH 1221	Calculus with Precalculus I and Calculus with Precalculus II	
or MATH 1231	Single-Variable Calculus I	
6 credits (two courses) in quantitative methods (6 credits), selected from the following:		
BISC 2584	Introduction to Bioinformatics	
CSCI 1012	Introduction to Programming with Python	
STAT 1127	Statistics for the Biological Sciences [2]	
9 credits in three gateway courses that introduce core neuroscience concepts, from the following:		
ANAT 2160	Human Functional Neuroanatomy	
or SPHR 2106	Neural Substrates of Speech, Language, and Hearing	
BISC 2320	Neural Circuits and Behavior	
BISC 3320	Human Neurobiology	
PSYC 2015	Biological Psychology	
15 credits (five courses), selected from the following three categories:		
Cellular/molecular/systems neuroscience—6 credits (two courses).		

ANTH 3413	Evolution of the Human Brain
BISC 2220	Developmental Neurobiology
BISC 3214	Developmental Biology
BISC 3320	Human Neurobiology
PSYC 3199	Current Topics in Psychology
Cognitive neuroscience–6 credits (two courses).	
PSYC 3118	Neuropsychology
PSYC 3121	Memory and Cognition
PSYC 3122	Cognitive Neuroscience
PSYC 3124	Visual Perception
SPHR 2133	Autism
SPHR 3116	Brain and Language
Advanced biochemistry–3 or 4 credits (one course)	
BISC 3261	Introductory Medical Biochemistry
CHEM 3165	Biochemistry I [2]
CHEM 3166	Biochemistry II
3 or 4 credits (one course) research/laboratory experience.	
This may be one semester of guided or independent research in ANTH, CHEM, PHIL, PSYC, or SPHR, or one of the following options: [3]	
Laboratory experience	
BISC 2452 & BISC 2453	Animal Behavior and Animal Behavior Lab
PSYC 4107W	Research Lab in Cognitive Neuroscience
BISC 4171	Undergraduate Research
BISC 4171W	Undergraduate Research
BISC 4172	Independent Study
BISC 4180	Undergraduate Research Seminar

[1]38 credits (10 courses) if MATH 1231 is taken or 41 credits (11 courses) if MATH 1220 and MATH 1221 are taken

[2]Recommended for premed students. In addition, premed students are advised to take BISC 2322 Human Physiology, BISC 2337 Introductory Microbiology Laboratory, SOC 1001 Introduction to Sociology.

[3]SLHS courses are available only to students with a minimum GPA of 3.5 in major courses and/or the permission of the instructor.

GENERAL EDUCATION

In addition to the University General Education Requirement (http://bulletin.gwu.edu/university-regulations/general-education/#text), undergraduate students in Columbian College must complete a further, College-specific general education curriculum–Perspective, Analysis, Communication, or G-PAC (http://bulletin.gwu.edu/arts-sciences/gpac/). Together with the University General Education Requirement, G-PAC engages students in active intellectual inquiry across the liberal arts. Students achieve a set of learning outcomes that enhance their analytical skills, develop their communication competencies, and invite them to participate as responsible citizens who are attentive to issues of culture, diversity, and privilege.

G-PAC approved courses, Dean's Seminars, and Sophomore Colloquia that may be available for registration are listed on the CCAS Advising website (https://advising.columbian.gwu.edu/general-education-courses/).

Coursework for the University General Education Requirement is distributed as follows:

- Writing–one approved course in university writing and two approved writing in the disciplines (WID) courses.
- Humanities–one approved course in the humanities that involves critical or creative thinking skills.
- Mathematics or Statistics–one approved course in either mathematics or statistics.
- Natural or Physical Science–one approved laboratory course that employs the process of scientific inquiry.
- Social Sciences–two approved courses in the social sciences.

Coursework for the Columbian College general education curriculum is distributed as follows:

- Arts–one approved course in the arts that involves the study or creation of artwork based on an understanding or interpretation of artistic traditions or knowledge of art in a contemporary context.
- Global or Cross-Cultural Perspective–one approved course that analyzes the ways in which institutions, practices, and problems transcend national and regional boundaries.
- Humanities–one approved course in the humanities that involves critical thinking skills (in addition to the one course in this category required by the University General Education Requirement).
- Local or Civic Engagement–one approved course that develops the values, ethics, disciplines, and commitment to pursue responsible public action.

- Natural or Physical Science—one approved laboratory course that employs the process of scientific inquiry (in addition to the one course in this category required by the University General Education Requirement.
- Oral Communication—one course in oral communication.

Certain courses are approved to fulfill the requirement in more than one of these categories.

Courses taken in fulfillment of G-PAC also may be counted toward majors or minors. Transfer courses taken prior to, but not after, admission to George Washington University may count toward the University General Education Requirement and G-PAC, if those transfer courses are equivalent to GW courses that have been approved by the University and the College.

SPECIAL HONORS

In addition to the general requirements stated under University Regulations, in order to be considered for graduation with Special Honors, students must maintain a cumulative 3.5 grade-point average in biological sciences courses and at least a 3.0 cumulative overall grade-point average. Students who meet these criteria and wish to pursue special honors must complete an approved research project under faculty direction.

COMBINED PROGRAM

- Dual Bachelor of Science with a major in neuroscience and Master of Science in the field of biological sciences (http://bulletin.gwu.edu/arts-sciences/biological-sciences/dual-bs-neuroscience-ms-biological-sciences/)