BACHELOR OF SCIENCE
WITH A MAJOR IN COGNITIVE NEUROSCIENCE

Our Psychology program at GW attracts students eager to develop research skills and solve issues within communities and societies—they apply lessons learned in the classroom to real-world scenarios through learning and research. You will be well-educated in a variety of topics, including abnormal, developmental, and social psychology, as well as cognitive neuroscience. During your tenure at GW you can work alongside faculty—or nearby research centers such as the National Institutes of Health and the National Science Foundation—on a range of health psychology and cultural diversity issues, leading you to opportunities to present your findings at local and national conferences. Beyond the classroom, our graduates have pursued career paths that have ranged from the more traditional path of psychiatry and social work to careers in management and public relations.

For more information, visit the program website. (https://psychology.columbian.gwu.edu/)

ADMISSIONS

For more information on the admission process, please visit the Office of Undergraduate Admissions website. Applications may be submitted via the Common Application.

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:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Required</td>
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<tr>
<td>11 to 14 credits in introductory natural science courses, including 8 credits in biological sciences and 3 or 6 credits in mathematics.</td>
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<tr>
<td>BISC 1111</td>
<td>Introductory Biology: Cells and Molecules</td>
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</table>

BISC 1112 | Introductory Biology: The Biology of Organisms |         |
MATH 1220 & MATH 1221 | Calculus with Precalculus I and Calculus with Precalculus II |         |
MATH 1231 | Single-Variable Calculus I |         |
Two courses in analytical methods (6 credits) selected from the following:
CSCI 1012 | Introduction to Programming with Python |         |
DATS 1001 | Data Science for All |         |
STAT 3201 | Introduction to Bioinformatics |         |
STAT 1127 | Statistics for the Biological Sciences |         |
Three gateway courses (9 to 10 credits) that introduce core concepts selected from the following:
ANAT 2160 | Human Functional Neuroanatomy |         |
ANTH 1005 | The Biological Bases of Human Behavior |         |
BISC 2320 | Neural Circuits and Behavior |         |
PHIL 1153 | The Meaning of Mind |         |
PHIL 2045 | Introduction to Logic |         |
PSYC 2014 | Cognitive Psychology |         |
PSYC 2015 | Biological Psychology |         |
SLHS 2106 | Neural Substrates of Speech, Language, and Hearing |         |
SLHS 2131 | Language Acquisition and Development |         |
SLHS 2135 | Language: Structure, Meaning, and Use |         |
Six intermediate content courses (18 credits), which must include two courses from each of the following three groups:
Cellular/molecular/systems neuroscience
ANTH 3413 | Evolution of the Human Brain |         |
BISC 2220 | Developmental Neurobiology |         |
BISC 3320 | Human Neurobiology |         |
PSYC 3199 | Current Topics in Psychology |         |
Cognitive neuroscience
PSYC 3118 | Neuropsychology |         |
### Bachelor of Science with a Major in Cognitive Neuroscience

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<tr>
<td>PSYC 3121</td>
<td>Memory and Cognition</td>
</tr>
<tr>
<td>PSYC 3122</td>
<td>Cognitive Neuroscience</td>
</tr>
<tr>
<td>PSYC 3124</td>
<td>Visual Perception</td>
</tr>
<tr>
<td>SLHS 3133</td>
<td>Autism</td>
</tr>
<tr>
<td>SLHS 3116</td>
<td>Brain and Language</td>
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<tr>
<td>Cognitive science</td>
<td></td>
</tr>
<tr>
<td>PHIL 3121</td>
<td>Symbolic Logic</td>
</tr>
<tr>
<td>PHIL 3153</td>
<td>Mind, Brain, and Artificial Intelligence</td>
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<tr>
<td>PSYC 3119</td>
<td>Cognitive Science in the District</td>
</tr>
<tr>
<td>PSYC 3180</td>
<td>Seminar in Cognitive Science</td>
</tr>
<tr>
<td>SLHS 3117</td>
<td>Hearing and Perception</td>
</tr>
<tr>
<td>SLHS 3132</td>
<td>Literacy</td>
</tr>
<tr>
<td>SLHS 4201</td>
<td>Social Communication Development</td>
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</table>

One research/laboratory experience (3 to 4 credits).  

BISC 2452 & BISC 2453 Animal Behavior and Animal Behavior Lab

PSYC 4106W Research Lab in Sensation and Perception

PSYC 4107W Research Lab in Cognitive Neuroscience

Four advanced content courses (12-16 credits) selected from the following:

ANTH 3401 Human Functional Anatomy

ANTH 3402 Human Evolutionary Anatomy

ANTH 3412 Hominin Evolution  

ANTH 3491 Topics in Biological Anthropology  

ANTH 3501 Anthropology of Development

ANTH 3601 Language, Culture, and Cognition

ANTH 3603 Psycholinguistics

ANTH 3691 Special Topics in Linguistic Anthropology  

ANTH 3995 Undergraduate Research  

PSYC 3116 Brain and Language

PSYC 3118 Neuropsychology

PSYC 3119 Cognitive Science in the District

PSYC 3120 Neuroscience of Consciousness

PSYC 3121 Memory and Cognition

PSYC 3122 Cognitive Neuroscience

PSYC 3124 Visual Perception

PSYC 3180 Seminar in Cognitive Science

PSYC 3198 Current Research Issues  

PSYC 3199 Current Topics in Psychology  

BISC 3166 Biochemistry II

BISC 3209 Molecular Biology

BISC 3320 Human Neurobiology

BISC 4132 Advanced Cellular-Molecular Biology

or BISC 4132W Advanced Cellular-Molecular Biology WID

BISC 4171 Undergraduate Research  

or BISC 4171W Undergraduate Research

BISC 4172 Independent Study  

or BISC 4172W Biological Science Independent Study

CHEM 2151 & CHEM 2153 Organic Chemistry I and Organic Chemistry Laboratory I

CHEM 2152 & CHEM 2154 Organic Chemistry II and Organic Chemistry Laboratory II

CHEM 4195 Undergraduate Research  

PHIL 3121 Symbolic Logic

PHIL 3151 Philosophy of Science  

or PHIL 3151W Philosophy and Science

PHIL 3152 Theory of Knowledge

PHIL 3153 Mind, Brain, and Artificial Intelligence

PHIL 3251 Philosophy of Biology

PHIL 4196 Topics in Theory of Knowledge  

PHIL 4199 Readings and Research  

or PHIL 4199W Readings and Research

PSYC 3116 Brain and Language

PSYC 3118 Neuropsychology

PSYC 3119 Cognitive Science in the District

PSYC 3120 Neuroscience of Consciousness

PSYC 3121 Memory and Cognition

PSYC 3122 Cognitive Neuroscience

PSYC 3124 Visual Perception

PSYC 3180 Seminar in Cognitive Science

PSYC 3198 Current Research Issues  

PSYC 3199 Current Topics in Psychology  

Bachelor of Science with a Major in Cognitive Neuroscience
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<tr>
<td>PSYC 3591</td>
<td>Supervised Research Internship (^5)</td>
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<tr>
<td>PSYC 4106W</td>
<td>Research Lab in Sensation and Perception</td>
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</tr>
<tr>
<td>PSYC 4107W</td>
<td>Research Lab in Cognitive Neuroscience</td>
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<tr>
<td>PSYC 4591</td>
<td>Independent Research (^5)</td>
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<tr>
<td>PSYC 4997</td>
<td>Honors Seminar</td>
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<tr>
<td>PUBH 3201</td>
<td>Introduction to Bioinformatics</td>
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<tr>
<td>SLHS 4221</td>
<td>Language and Communication in Aging</td>
<td></td>
</tr>
<tr>
<td>STAT 3119</td>
<td>Analysis of Variance</td>
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\(^1\)CSCI 1012 is recommended but not required to fulfill this requirement.

\(^2\)If a student wishes to take a Statistics course to fulfill this requirement, STAT 1127 is recommended but an equivalent STAT course may be substituted.

\(^3\)PSYC 3199 must be taken when offered as Introduction to Psychopharmacology to satisfy this requirement.

\(^4\)This requirement may also be fulfilled by taking any of the independent research/reading courses offered by the associated departments. Such courses are listed in the advanced content section with the footnote number 5. All courses so noted may be taken multiple times and each enrollment may be applied to either the advanced content or the research experience requirement.

\(^5\)These courses may have GPA requirements and permission of the instructor. Please contact the relevant departments for more information. Each must be taken for a total of at least 3 credits to count towards the requirement.

**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 Bachelor of Science with a Major in Cognitive Neuroscience
courses that have been approved by the University and the College.