Date Submitted: 11/12/18 3:08 pm

Viewing: SC-BS-NEUR : Neuroscience, BS

Last approved: 11/22/17 2:47 pm

Last edit: 11/12/18 8:45 pm

Changes proposed by: jbazaz

Catalog Pages Using this Program

Neuroscience, BS

In Workflow

1. **NEUR Chair**
2. SC Curriculum Committee
3. SC Associate Dean
4. SC CAT Editor
5. Assoc Provost-Undergraduate
6. Registrar-Programs

History

1. Nov 22, 2017 by clmig-jwehrheim

Are you completing this form on someone else's behalf?

Yes

Requestor:

Name	Extension	Email
Gwendolyn Lewis	6239	glewis13

Effective Catalog: 2019-2020

Program Level: Undergraduate

Program Type: Bachelor's

Degree Type: Bachelor of Science

Title: Neuroscience, BS

Banner Title: **Neuroscience, BS**

Registrar/OAPI Use Only – SCHEV Status Approved

Registrar's Office Use Only – Program Start Term

Registrar/OAPI Use Only – SCHEV Letter

Concentration(s):

Registrar/IRR Use Only – Concentration CIP Code

College/School: College of Science

Department / Academic Unit: Interdisciplinary Neuroscience Program

Jointly Owned Program? No

Justification

As this program is now primarily housed in the College of Science, some changes have been made to bring it more in line with the college's other programs. Additional elective options have been added to include courses that are commonly accepted through program elective approval forms.

Total Credits Required: Total credits: minimum 120

Registrar's Office Use Only - Program Code:

SC-BS-NEUR

Registrar/IRR Use Only – Program CIP Code

Admission Requirements:

Admissions

University-wide admissions policies can be found in the Undergraduate Admissions Policies section of this catalog.

To apply for this program, please complete the George Mason University Admissions Application.

Program-Specific Policies:

Policies

Students must fulfill all Requirements for Bachelor's Degrees, including the Mason Core.

NEUR 410 Current Topics in Neuroscience or NEUR 411 Seminar in Neuroscience fulfill the writing intensive requirement.

For policies governing all undergraduate programs, see AP.5 Undergraduate Policies.

Degree Requirements:

Students should refer to the Admissions & Policies tab for specific policies related to this program.

Foundation Courses

Code	Course List Title	Credits
Biology		
BIOL 213	Cell Structure and Function (Mason Core)	4
Select one from the following: 2		4
BIOL 311	General Genetics	
~~BIOL 326~~	~~Animal Physiology~~	
~~BIOL 425~~	~~Human Physiology~~	
BIOL 430	Advanced Human Anatomy and Physiology I	
~~BIOL 431~~	~~Advanced Human Anatomy and Physiology II~~	
Chemistry		
CHEM 211	General Chemistry I (Mason Core)	4
& CHEM 213	and General Chemistry Laboratory I (Mason Core)	
CHEM 212	General Chemistry II (Mason Core)	4
& CHEM 214	and General Chemistry Laboratory II (Mason Core)	
Mathematics		
Select one option (4 or 6 credits) from the following:		**4-6**
MATH 113	Analytic Geometry and Calculus I (Mason Core)	
~~MATH 114~~	~~Analytic Geometry and Calculus II 3~~	
~~MATH 213~~	~~Analytic Geometry and Calculus III~~	
MATH 123	**Calculus with Algebra/Trigonometry, Part A**	
& MATH 124	**and Calculus with Algebra/Trigonometry, Part B (Mason Core)**	
Statistics		
~~Select one course (3 or 4 credits) from the following:~~		~~3-4~~
Select one course (3 or 4 credits) from the following:		3-4
BIOL 214	Biostatistics for Biology Majors	
STAT 250	Introductory Statistics I (Mason Core)	
PSYC 300	Statistics in Psychology	
MATH 352	Statistics	
Physics		
Select one of the following sequences:		8
PHYS 243	College Physics I (Mason Core)	
& PHYS 244	and College Physics Lab (Mason Core)	
& PHYS 245	and College Physics II (Mason Core)	
& PHYS 246	and College Physics Lab (Mason Core)	
PHYS 160	University Physics I (Mason Core)	
& PHYS 161	and University Physics I Laboratory (Mason Core)	

Code	Title	Credits
& PHYS 260	and University Physics II (Mason Core)	
& PHYS 261	and University Physics II Laboratory (Mason Core)	
Psychology [3,4]		
PSYC 100	Basic Concepts in Psychology (Mason Core)	3
PSYC 375	Brain and Sensory Processes	3
PSYC 376	Brain and Behavior	3
Computer Science		
CDS 130	Computing for Scientists (Mason Core)	3
Core Courses in Neuroscience [4]		
NEUR 327	Cellular, Neurophysiological, and Pharmacological Neuroscience	3
NEUR 335	Molecular, Developmental, and Systems Neuroscience	3
Technical Writing [1]		
NEUR 410	Current Topics in Neuroscience	3
or NEUR 411	Seminar in Neuroscience	
Required Psychology Lab Course [4]		
PSYC 373	Biopsychology Laboratory	1
Total Credits		53-56

1 The course chosen to fulfill this requirement cannot be applied to the 24 credits of approved neuroscience electives.

2 Both MATH 123 Calculus with Algebra/Trigonometry, Part A and MATH 124 Calculus with Algebra/Trigonometry, Part B (Mason Core) need to be taken to fulfill the requirement. Completion of both courses is the equivalent of MATH 113 Analytic Geometry and Calculus I (Mason Core).

3 Transfer students who have earned transfer credit for PSYC 372 Biopsychology may substitute this course for PSYC 375 Brain and Sensory Processes.

4 Students must earn a minimum grade of 1.67 (C-) in these courses. Either course fulfills the writing intensive requirement.

Electives

Students should consult with an advisor to choose appropriate elective courses, which must be approved by the director of the program. A sample of possible electives is given below. Students may apply no more than 6 credits of courses with a grade of **'D'** ~~D~~ to this requirement.

Students intending to pursue a doctorate in neuroscience or a medical degree are advised to take CHEM 313 Organic Chemistry I and CHEM 315 Organic Chemistry Lab I.

Course List

Code	Title	Credits
Select 24 credits from the following:		24
BENG 101	Introduction to Bioengineering	
BENG 313	Physiology for Engineers	
BIOL 305	Biology of Microorganisms	

Code	Title	Credits
BIOL 306	**Biology of Microorganisms Laboratory**	
BIOL 308	**Foundations of Ecology and Evolution**	
BIOL 310	**Biodiversity**	
BIOL 311	General Genetics	
BIOL 322	**Developmental Biology**	
BIOL 323	**Lab for Developmental Biology**	
BIOL 326	Animal Physiology	
BIOL 417	Selected Topics in Molecular and Cellular Biology (when topic is Foundations of the Mammalian Brain)	
BIOL 420	Vaccines	
BIOL 425	Human Physiology	
BIOL 426	**Mechanisms of Aging**	
BIOL 430	Advanced Human Anatomy and Physiology I	
BIOL 431	Advanced Human Anatomy and Physiology II	
BIOL 452	Immunology	
BIOL 453	Immunology Laboratory	
BIOL 471	Evolution	
BIOL 482	**Introduction to Molecular Genetics**	
BIOL 483	General Biochemistry	
BIOL 484	Eukaryotic Cell Biology	
BIOL 515	Developmental Neurobiology	
CDS 301	Scientific Information and Data Visualization	
CHEM 313	Organic Chemistry I	
CHEM 314	Organic Chemistry II	
CHEM 315	**Organic Chemistry Lab I**	
CHEM 318	**Organic Chemistry Lab II**	
CHEM 321	Quantitative Chemical Analysis	
~~CHEM 333~~	~~Course CHEM 333 Not Found~~	
~~CHEM 334~~	~~Course CHEM 334 Not Found~~	
CHEM 463	General Biochemistry I	
CHEM 464	General Biochemistry II	
CHEM 465	**Biochemistry Lab**	
MATH 114	Analytic Geometry and Calculus II	
or MATH 116	Analytic Geometry and Calculus II (Honors)	
MATH 203	Linear Algebra	
MATH 213	Analytic Geometry and Calculus III	
MATH 214	Elementary Differential Equations	
NEUR 405	RS: Laboratory Methods in Behavioral Neuroscience	
NEUR 406	**Zebrafish Neurodevelopment Laboratory**	

Code	Title	Credits
NEUR 410	Current Topics in Neuroscience (when not used to fulfill the technical writing requirement) [1]	
NEUR 411	Seminar in Neuroscience [1]	
NEUR 440	Independent Study in Neuroscience	
NEUR 450	Honors Thesis Proposal	
NEUR 451	Honors Thesis	
NEUR 461	**Special Topics in Neuroscience**	
NEUR 480	**Biological Bases of Alzheimer's Disease**	
PHYS 262	University Physics III (Mason Core)	
PHYS 263	University Physics III Laboratory (Mason Core)	
PSYC 304	Principles of Learning	
PSYC 309	Sensation, Perception, and Information Processing	
PSYC 317	Cognitive Psychology	
PSYC 441	**Criminal Behavior: Psychological and Neurological Aspects**	
PSYC 472	Current Topics in Brain and Behavior	
Total Credits		24

1 Fulfills the writing intensive requirement.

Retroactive Requirements Updates:

Plan of Study:

Honors Information:

Honors in the Major

Highly-qualified students may apply to graduate with honors in the major.

Eligibility

To be eligible for admission, neuroscience majors must have completed at least 60 credits and have a minimum cumulative GPA of 3.25 and a minimum GPA of 3.25 in neuroscience courses.

Honors Requirements

If accepted, students must take a sequence of three courses, which culminates in the successful completion and presentation of an independent honors thesis.

Course List

Code	Title	Credits
NEUR 410	Current Topics in Neuroscience	3

Code	Title	Credits
or NEUR 411	Seminar in Neuroscience	
NEUR 450	Honors Thesis Proposal	2-3
NEUR 451	Honors Thesis	3-4
Total Credits		8-10

To graduate with honors, students must earn a minimum GPA of 3.50 in their honors courses, maintain a minimum cumulative GPA of 3.25, and complete an honors thesis.

Additional Program Information

This information is required by the Office of Accreditation and Program Integrity.

Courses offered via distance (if applicable):

What is the primary delivery format for the program? **Face-to-Face Only**

Does any portion of this program occur off-campus?

No

Are you working with a vendor / other collaborators to offer your program?

No

Related Departments

Could this program prepare students for any type of professional licensure, in Virginia or elsewhere?

No

Are you adding or removing a licensure component?

No

Additional SCHEV & SACSCOC Information

Are you changing the total number of credits required for this program?

Are you changing the delivery format in any way (e.g adding an online option)?

Are you adding/removing a licensure option which was approved by SCHEV?

Will any portion of this program be offered at an off-campus location?

Are you adding significant new content areas to the program?

Will this program change affect any specialized accreditation?

Green Leaf Program Designation

Is this a Green Leaf program? No

Does this program cover material which crosses into another department?

No

Additional Attachments

SCHEV Proposal

Executive Summary

Reviewer Comments

Additional Comments

Is this course required of all students in this degree program?

%wi_required.eschtml%

Key: 609