

# Program Change Request

Date Submitted: 01/11/21 4:02 pm

Viewing: **SC-BS-NEUR : Neuroscience, BS**

Last approved: 09/21/20 3:19 pm

Last edit: 01/12/21 7:03 pm

Changes proposed by: gscott21

Catalog Pages  
Using this Program

[Neuroscience, BS](#)

2021-2022

Rationale for

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

Yes

Requestor:

## In Workflow

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

## Approval Path

1. 01/11/21 4:05 pm  
Saleet Jafri (sjafri):  
Approved for NEUR  
Chair

## History

1. Nov 22, 2017 by  
clmig-jwehrheim
2. Feb 1, 2019 by  
Jennifer Bazaz  
Gettys (jbazaz)
3. May 1, 2019 by Tory  
Sarro (vsarro)
4. Mar 3, 2020 by  
Jennifer Bazaz  
Gettys (jbazaz)
5. Sep 21, 2020 by  
Jennifer Bazaz  
Gettys (jbazaz)

Name	Extension	Email
Gwendolyn Lewis	3-6239	glewis13@gmu.edu

Effective Catalog: 2021-2022

**Program Level:** Undergraduate

**Program Type:** Bachelor's

**Degree Type:** Bachelor of Science

**Title:** Neuroscience, BS

**Banner Title:** Neuroscience, BS

**Is this a retitling of an existing program?**

**Existing Program**

**Registrar/OAPI Use Only – SCHEV Status** Approved

**Registrar's Office Use Only – Program Start Term**

**Registrar/OAPI Use Only – SCHEV Letter**

**Registrar/OAPI Use Only – SACSCOC Status**

**Concentration(s):**

**INTO Major(s):**

**Registrar/IRR Use Only – Concentration CIP Code**

**College/School:** College of Science

**Department / Academic Unit:** Interdisciplinary Neuroscience Program

**Jointly Owned Program?** No

**Participating**

**Participating**

**Justification**

Justification:

What is proposed? Addition of BIOL 429: Biological Foundations of Pharmacology to neuroscience electives

Why is this necessary? This course has a strong neuroscience component and is of interest to our students. We already have several students enrolled for the spring section. Our department has reviewed this course and approved its use as an elective.

## Catalog Published Information

**Total Credits Required:** Total credits: minimum 120

**Registrar's Office Use Only - Program Code:**

SC-BS-NEUR

**Registrar/IRR Use Only – Program CIP Code** 26.1501 - Neuroscience.

**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

Biology

[BIOL 213](#) Cell Structure and Function ([Mason Core](#)) 4

Select one from the following: 1,2 4

[BIOL 311](#) General Genetics

[BIOL 322](#) Developmental Biology

[BIOL 326](#) Animal Physiology

[BIOL 425](#) Human Physiology

[BIOL 430](#) Advanced Human Anatomy and Physiology I

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

<a href="#">MATH 113</a>	Analytic Geometry and Calculus I ( <a href="#">Mason Core</a> )	
<a href="#">MATH 123</a> & <a href="#">MATH 124</a>	Calculus with Algebra/Trigonometry, Part A and Calculus with Algebra/Trigonometry, Part B ( <a href="#">Mason Core</a> )	

## Statistics

Select one course (3 or 4 credits) from the following:

3-4

<a href="#">BIOL 214</a>	Biostatistics for Biology Majors
<a href="#">STAT 250</a>	Introductory Statistics I ( <a href="#">Mason Core</a> )
<a href="#">PSYC 300</a>	Statistics in Psychology
<a href="#">MATH 352</a>	Statistics

## Physics

Select one of the following sequences:

8

<a href="#">PHYS 243</a> & <a href="#">PHYS 244</a> & <a href="#">PHYS 245</a> & <a href="#">PHYS 246</a>	College Physics I ( <a href="#">Mason Core</a> ) and College Physics I Lab ( <a href="#">Mason Core</a> ) and College Physics II ( <a href="#">Mason Core</a> ) and College Physics II Lab ( <a href="#">Mason Core</a> )
<a href="#">PHYS 160</a> & <a href="#">PHYS 161</a> & <a href="#">PHYS 260</a> & <a href="#">PHYS 261</a>	University Physics I ( <a href="#">Mason Core</a> ) and University Physics I Laboratory ( <a href="#">Mason Core</a> ) and University Physics II ( <a href="#">Mason Core</a> ) and University Physics II Laboratory ( <a href="#">Mason Core</a> )

## Psychology 1,3

<a href="#">PSYC 100</a>	Basic Concepts in Psychology ( <a href="#">Mason Core</a> )	3
<a href="#">PSYC 375</a>	Brain and Sensory Processes	3
<a href="#">PSYC 376</a>	Brain and Behavior	3

## Computer Science

<a href="#">CDS 130</a>	Computing for Scientists	3
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## Core Courses in Neuroscience 1

<a href="#">NEUR 327</a>	Cellular, Neurophysiological, and Pharmacological Neuroscience	3
<a href="#">NEUR 335</a>	Molecular, Developmental, and Systems Neuroscience	3

## Technical Writing 1,2,4

<a href="#">NEUR 410</a> or <a href="#">NEUR 411</a>	Current Topics in Neuroscience Seminar in Neuroscience	3
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## Required Psychology Lab Course 1

<a href="#">PSYC 373</a>	Biopsychology Laboratory	2
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## Total Credits

54-57

1Students must earn a minimum grade of 1.67 (C-) in these courses.

2The course chosen to fulfill this requirement cannot be applied to the 24 credits of approved neuroscience electives.

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

4Either 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. Only courses not already taken in the degree will apply as

electives, with the exception of seminar and topics courses; a different topic must be addressed in the second instance of a seminar or topics course. Students may apply no more than 6 credits of courses with a grade of '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.

Select 24 credits from the following:

24

- [BENG 101](#) Introduction to Bioengineering
- [BENG 313](#) Physiology for Engineers
- [BENG 434](#) Computational Modelling of Neurons and Networks
- [BIOL 305](#) Biology of Microorganisms
- [BIOL 306](#) Biology of Microorganisms Laboratory
- [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 429](#) **Biological Foundations of Pharmacology**
- [BIOL 430](#) Advanced Human Anatomy and Physiology I
- [BIOL 431](#) Advanced Human Anatomy and Physiology II
- [BIOL 432](#) Clinical Applications in Human Physiology
- [BIOL 452](#) Immunology
- [BIOL 453](#) Immunology Laboratory
- [BIOL 471](#) Evolution
- [BIOL 482](#) Introduction to Molecular Genetics
- [BIOL 483](#) General Biochemistry
- [BIOL 484](#) Cell Signaling and Disease
- [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 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

<a href="#">NEUR 405</a>	RS: Laboratory Methods in Behavioral Neuroscience
<a href="#">NEUR 406</a>	Zebrafish Neurodevelopment Laboratory
<a href="#">NEUR 407</a>	Lab Investigations Using Voltage Clamp Electrophysiology
<a href="#">NEUR 410</a>	Current Topics in Neuroscience (when not used to fulfill the technical writing requirement) 1
<a href="#">NEUR 411</a>	Seminar in Neuroscience 1
<a href="#">NEUR 422</a>	Glutamatergic Systems
<a href="#">NEUR 440</a>	Independent Study in Neuroscience
<a href="#">NEUR 450</a>	Honors Thesis Proposal
<a href="#">NEUR 451</a>	Honors Thesis
<a href="#">NEUR 461</a>	Special Topics in Neuroscience
<a href="#">NEUR 480</a>	Biological Bases of Alzheimer's Disease
<a href="#">PHYS 262</a>	University Physics III ( <a href="#">Mason Core</a> )
<a href="#">PHYS 263</a>	University Physics III Laboratory ( <a href="#">Mason Core</a> )
<a href="#">PSYC 304</a>	Principles of Learning
<a href="#">PSYC 309</a>	Sensation, Perception, and Information Processing
<a href="#">PSYC 317</a>	Cognitive Psychology
<a href="#">PSYC 441</a>	Criminal Behavior: Psychological and Neurological Aspects
<a href="#">PSYC 472</a>	Current Topics in Brain and Behavior

Total Credits

24

1 Fulfills the writing intensive requirement.

### Retroactive Requirements Updates:

Effective catalog years: 2018-2019; 2019-2020

Add to the selection of foundation course options: BIOL 322; BIOL 326; BIOL 425

Add to the elective course options: BIOL 432; BENG 434; NEUR 407; NEUR ~~422~~, ~~BIOL 429~~ ~~422~~

### 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.

<a href="#">NEUR 410</a>	Current Topics in Neuroscience	3
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or <a href="#">NEUR 411</a>	Seminar in Neuroscience	
<a href="#">NEUR 450</a>	Honors Thesis Proposal	2-3
<a href="#">NEUR 451</a>	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.

**Accelerated  
Description/Dual  
Degree  
Description:**

**INTO-Mason  
Requirements:**

**College  
Requirements &  
Policies:**

Department /  
Academic Unit  
Requirements &  
Policies:

## Program Outcomes

### Additional Program Information

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

**Courses offered via  
distance (if  
applicable):**

Indicate whether  
students are able

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

**Does any portion of this program occur off-campus?**

No

**Off-campus details:**

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

No

**Please explain:**

**Related  
Departments**

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

No

**Please explain:**

**Are you adding or removing a licensure component?**



No

Please explain:

## Additional SCHEV & SACSCOC Information

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

No

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

No

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

No

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

No

What off-campus location(s)? List all

What percentage of credits toward this program are offered at the off-campus location(s)?  
Please list percentages by site (i.e. 15% at Site A, 35% at Site B etc.)

Will this program change affect any specialized accreditation?

No

Is the content of the new program closely related to that of an existing approved program?

No

Which existing approved program(s)?

Is this new program considered to be "advancing the degree level of a currently approved program" (i.e. existing content is at lower degree level, new content is at the higher degree level)?

No

Which existing approved program(s)?

Is this new program considered to be "lowering the degree level of a currently approved program" (i.e. existing content is at higher degree level, new content is at the lower degree level)?

No

Which existing approved program(s)?

Does this change represent a repackaging of content in an existing approved degree/certificate program?

No

Which existing approved program(s)?

Percentage of total credits containing new course content, excluding gen ed courses for undergraduate programs.  
("New content" means content that is not currently included in an existing approved degree/certificate program.)  
Please choose a percentage (i.e. 0%-100%)

less than 25%

Are the total credits for the program increasing or decreasing by more than 3 credits?

No

Will any additional equipment/facilities be needed?

No

Description of institutional impact:

Will any additional faculty be required?

No

Description of institutional impact:

Will any additional financial resources be needed?

No

Description of institutional impact:

Will any additional library/learning resources needed?

No

Description of institutional impact:

**OAPI Use Only – Determination of SACSCOC Impact**

Comments or Notes

**Green Leaf Program Designation**

Is this a Green Leaf program? No

**Green Leaf Designation**

Sustainability-focused academic programs require at least one green leaf course. Either that course is itself sustainability-focused or else the program requires a set of sustainability-related courses with aggregated

**Relationship to Existing Courses**

**Relationship to Existing Programs**

List sustainability-focused courses currently required in the degree

Sustainability-related academic programs either require at least one sustainability-related course or else offer any green leaf course as an option or elective \*

**List sustainability-related courses currently required in the degree**

**Does this program cover material which crosses into another department?**

No

**Impacted  
Departments**

**Additional  
Attachments**

**SCHEV Proposal**

**Executive Summary**

**Reviewer  
Comments**

**Additional  
Comments**

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

[%wi\\_required.eshtml%](#)

**Attached  
Document**

[%attach\\_document.eshtml%](#)

Key: 609