COMPUTATIONAL NEUROSCIENCE MINOR

Banner Code: CMNR

Academic Advising

204 Krasnow Institute
Fairfax Campus

Phone: 703-993-4334
Email: neurosci@gmu.edu
Website: https://science.gmu.edu/academics/departments-units/neuroscience/neuroscience-minor

The Computational Neuroscience Minor will train students in the use of computational approaches in neuroscience research. AI-driven technologies, machine learning, and big data analytics has given rise to brain-computer interfaces and precision medicine. There is heightened demand for professionals who bridge neuroscience and computational expertise. Core components in the computational neuroscience minor will teach skills in programming, data analysis, visualization, and neural modeling.

This minor is an attractive complement to students majoring in computer science and engineering, biological sciences, computational data science, or cognitive psychology who are interested in expanding their knowledge and skills to computational neuroscience.

Admissions & Policies

Policies

Eight credits of coursework must be unique to the minor. For policies governing all minors, see AP.5.3.4 Minors (https://catalog.gmu.edu/policies/academic/undergraduate-policies/#ap-5-3-4).

For policies governing all undergraduate programs, see AP.5 Undergraduate Policies (https://catalog.gmu.edu/policies/academic/undergraduate-policies/).

Requirements

Minor Requirements

Total credits: 15

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

Students must complete at least 15 credits of coursework with a minimum GPA of 2.00.

Required Courses

Code	Title	Credits
NEUR 101	Introduction to Neuroscience (Mason Core) (https://catalog.gmu.edu/mason-core/)	3
NEUR 430	Introduction to Computational Neuroscience	3
NEUR 431	Neuroinformatics Methods	3
Total Credits		**9**

Elective Courses

Code	Title	Credits
Select 6 credits from the following courses:		6
NEUR 432 or BENG 350	Neural Systems Design Neural System Designs	
NEUR 440	Independent Study in Neuroscience	
NEUR 461	Special Topics in Neuroscience (when the topic is Computational Social Neuroscience.)	
BENG 360	Biomedical Imaging (Mason Core) (https://catalog.gmu.edu/mason-core/)	
BENG 434	Computational Modelling of Neurons and Networks	
BINF 450	Bioinformatics for Life Sciences	
CDS 301	Scientific Information and Data Visualization	
CDS 303	Scientific Data Mining	
Students seeking to take elective courses not listed above must first obtain approval from their academic advisor.		
Total Credits		**6**