Course Change Request

Date Submitted: 08/30/21 2:45 pm

Viewing: NEUR 422 : Glutamatergic Systems

Last approved: 11/13/20 4:55 am

Last edit: 08/30/21 2:45 pm

Changes proposed by: gscott21

Catalog Pages referencing this course

Interdisciplinary Program in Neuroscience (IPN)

Neuroscience (NEUR)

Select modification type:

Substantial

In Workflow

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

Approval Path

1. 08/30/21 4:58 pm Saleet Jafri (sjafri): Approved for NEUR Chair

History

1. Mar 2, 2020 by Ginny Scott (gscott21)
2. Nov 13, 2020 by Johanna Riemen (jriemen)

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

Yes ~~No~~

Requestor:

Name	Extension	Email
Greta Ann Herin	**3-2790**	**gherin@gmu.edu**

Effective Term: Spring 2022

Subject Code:

NEUR - Neuroscience **Course Number:** 422

Bundled Courses:

Is this course replacing another course? No

Equivalent Courses:

Catalog Title: Glutamatergic Systems

Banner Title: Glutamatergic Systems

Will section titles vary by semester? No

Credits: 3

Schedule Type: Lecture

Hours of Lecture or Seminar per week: 3

Repeatable: May only be taken once for credit, limited to 2 attempts (N2)

Max Allowable Credits: 6

Default Grade Mode: Undergraduate Regular

Recommended Prerequisite(s):

Recommended Corequisite(s):

Required Prerequisite(s) / Corequisite(s) (Updates only):

NEUR 327 ~~and NEUR 335~~ or equivalent

Registrar's Office Use Only - Required Prerequisite(s)/Corequisite(s):

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	NEUR 327	C	UG		
Or		NEUR 327	XS	UG	)	
And	(	NEUR 335	C	UG		
Or		NEUR 335	XS	UG	)	

Registration Restrictions (Updates only):

Registrar's Office Use Only - Registration Restrictions:

Field(s) of Study:

Class(es):

Level(s):

Degree(s):

School(s):

Catalog Description:

A survey of molecular and clinical neuroscience from the perspective of glutamatergic systems. This course will use the reading of primary scientific literature to guide students to learn a variety of neural systems, methods in neuroscience, and levels of analysis. Students will develop critical thinking skills through communicating and critiquing papers.

Justification:

Reduce pre-requisite requirement to just NEUR 327. Students should have BIOL 213 Cell Structure and Function (4) and at least one NEUR core course. NEUR 327 has the BIOL 213 as a pre-requisite.

Does this course cover material which crosses into another department? No

Learning Outcomes:

Neuroscience is a cross-disciplinary study, and examines the nervous system through multiple levels of analysis, from the molecular to the philosophical. This course focuses on the role of glutamate as a neurotransmitter primarily in the mammalian central nervous system. It is a survey of classic and recent literature with papers chosen to represent a variety of systems, methods of investigation, varying quality of scientific design, and to give a historical perspective on the scientific process. The objectives of this course are divided into content knowledge and skills. After successful completion of this course, students will be able to:

Content Knowledge

1. Describe the historical discoveries of glutamate as a neurotransmitter and current thinking about glutamatergic neurotransmission.
2. Describe the biochemical and cellular systems that manufacture, transport, and receive glutamate, with emphasis on the diversity of glutamate receptors.
3. Use structure/function relationships to predict the outcome of dysfunction in several mammalian glutamatergic circuits.

Critical Thinking Skills

4. Become more proficient at reading primary literature including comprehension of scientific terminology, graph interpretation, statistical reasoning, and distinction between description and conjecture.
5. Communicate effectively to others the purpose, contexts, methods, weaknesses and strengths of primary neuroscientific literature.
6. Contextualize individual studies in light of the current body of knowledge.
7. Identify current gaps in the literature and predict elegant studies to address them

Attach Syllabus

NEUR 422_Herin.pdf

Additional Attachments

NEUR 461-689 2019 Herin Schedule and Points Draft.pdf

Specialized Course Categories:

Additional Comments:

Reviewer Comments

Key: 16761