

Course number	U-LAS70 10002 SE50				
Course title (and course title in English)	ILAS Seminar-E2 :Disorders of the Nervous System (神経系障害) ILAS Seminar-E2 :Disorders of the Nervous System	Instructor's name, job title, and department of affiliation	Graduate School of Medicine Assistant Professor,RAUDZUS , Fabian		
Group	Seminars in Liberal Arts and Sciences	Number of credits	2	Number of weekly time blocks	1
Class style	seminar (Face-to-face course)	Year/semesters	2025 ・ Second semester	Quota (Freshman)	15 (15)
Target year	Mainly 1st year students	Eligible students	For all majors	Days and periods	Wed.5
Classroom	24, Yoshida-South Campus Bldg. No. 1			Language of instruction	English
Keyword	Brain (脳) / Parkinson disease (パーキンソン病) / Alzheimer disease (アルツハイマー病) / Spinal cord injuries (脊髄損傷)				

[Overview and purpose of the course]

Get ready for an exciting journey into the world of "Disorders of the Nervous System"! This seminar uncovers the mysteries behind various diseases caused by factors like neurodegeneration, genetics, environmental influences, and injuries. These conditions present significant challenges for individuals, their families, and society at large. While many of these disorders currently lack a cure, exploring their underlying mechanisms is key to finding groundbreaking solutions.

Throughout the seminar, we'll explore the details of the peripheral and central nervous systems, unraveling the interesting organization of the human brain. We'll investigate both the genetic and environmental triggers behind these disorders. As we progress, we'll focus on neurodegenerative conditions like Alzheimer's, Parkinson's, and Huntington's diseases, and later, we'll look into peripheral nervous system disorders, including those affecting vision and hearing.

Be prepared for an interactive experience! Your learning adventure will involve dynamic student presentations followed by lively group discussions. Once we've examined the background and causes of each disorder, you'll have the exciting opportunity to dive into selected literature, gaining valuable insights into current treatments and future possibilities. This seminar promises to be an enriching exploration of the fascinating world of neuroscience and its potential to transform lives!

[Course objectives]

During this seminar, you will gain insights into common conditions and stay updated with the latest research. Through hands-on study of primary sources, you will uncover cutting-edge treatments and methodologies. By the end of the course, you will possess a robust skill set, allowing you to critically evaluate, discuss, and comprehend nervous system disorders and their various treatment options. This knowledge will empower you to navigate this field with confidence and expertise!

[Course schedule and contents]

1. Getting to Know Our Nervous Systems: Peripheral and Central Nervous Systems Unraveled
2. Inside the Brain: How It Works and Why It Matters
3. Genes and Nervous System Problems: Understanding Genetic Causes of Brain Disorders
4. Environment and Our Nervous System: How Outside Factors Affect Our Health
5. Understanding Alzheimer's: How It Affects Memory and Thinking
6. Parkinson's: Why Movements Slow Down and Muscles Get Stiff

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7. Huntington's Disease: A Brain Condition That Starts Early and Gets Worse
8. Proteins and Brain Health: Exploring Prion and Creutzfeldt-Jakob Diseases
9. Nerve Troubles: Learning About Charcot-Marie-Tooth Disease
10. When the Brain-Body Link Breaks: Exploring Spinal Cord Injuries
11. Epilepsy: What Happens When the Brain Gets Too Active
12. Eye Troubles: Understanding Glaucoma and Other Visual Problems
13. Hearing Loss Stories: Brown-Vialetto-Van Laer Syndrome and Sensorineural Hearing Loss
14. The Latest in Nervous System Research: Where We Are and What's Next
15. Feedback

Changes regarding content and order might occur.

[Course requirements]

This course is open to all students, although a basic understanding of biology is suggested. Additionally, attending the seminar "Physiological Neuroscience" beforehand is recommended to get introduced to the basic principles of neuroscience.

[Evaluation methods and policy]

Attendance and active participation: 20%
Midterm assignment: 40%
Presentation: 40%

[Textbooks]

Not used

[References, etc.]

(References, etc.)

Mark F. Bear, Barry W. Connors, Michael A. Paradiso 『Neuroscience: Exploring the Brain』 (Jones & Bartlett Learning, April 8, 2020) ISBN:9781284211283 (Enhanced 4th Edition (English Edition))

[Study outside of class (preparation and review)]

To make the most of each seminar, it's important to be prepared. This involves reviewing the previous session, working through any questions, and doing some independent study on the upcoming subject. Expect to spend around 60-90 minutes getting ready.

[Other information (office hours, etc.)]

For a deeper understanding of neuroscience, it's advised to attend the "Physiological Neuroscience" seminar. This will provide additional insights into the basic principles of our nervous system.

If you have further questions, feel free to write me an email.

[Essential courses]