

Category (科目区分)	Cluster of Neuroscience System		
Course Title (授業科目名)	Neuroscience and practical training		
Instructors (担当者名)	Tomohiro Numata	Academic Year (配当年次)	1
Required Course / Elective Course (必修/選択)	Elective Course	Credits (単位数)	1
Class Format (授業形態)	Lecture		
Schedule (開講期間)	Students will be notified by email after completing the course registration.		
Class Date/Period (開講曜日・時間)	Students will be notified by email after completing the course registration.		
Course Outline/ Course Objectives (授業の概要・到達目標)			
Purpose of the class: The goal of this class is to understand a wide range of physiological fields and learn basic knowledge as a medical student.			
Achievement goal of the class: The goal is to understand neuroscience, electrophysiology, and neuropharmacology widely. To do that, read and discuss research papers on the latest neuroscience.			
Class Overview: Classes provide an overview and technical characteristics of each of the themes of nerve labeling, patch-clamp, and optogenetics.			
Course Planning (授業計画)			
	Course Outline/ Course Objectives (授業の概要及び到達目標) (Contents of Class) (授業内容)	Instructor (担当教員名)	Department (講座名) Class Room [実施場所]
1	Introduction	Tomohiro Numata	Department of Integrative Physiology
2			
3	nerve labeling method		
4			
5	patch clamp technique		
6			
7	optogenetics		
8			
9			
10			
Grading Criteria (成績評価の基準と方法)			
Thirty hours of practical training and 15 hours of self-study in the seminar room, a total of 45 hours, will be used for one unit. Grades will be considered by attendance, examination results, and reports.			
Contact Information (問い合わせ先(氏名, メールアドレス等))			
Name: Prof. Tomohiro Numata / E-mail: numata@med.akita-u.ac.jp			
Coment (その他特記事項)			
Information about courses: If you cannot attend the training due to work, such as a graduate student who is a member of society, we will adjust the schedule. Textbooks / References: Materials will be distributed as needed. Self-study content during self-study time: It is desirable to carry out preparatory learning according to the goals to be achieved and the content of the lesson.			