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| 科目ナンバリング | | | | | | | | | |
| 授業科目名 <英訳> | | Fundamentals of Neuroscience-E2 Fundamentals of Neuroscience-E2 | | | 担当者所属 職名・氏名 | | 医学研究科 講師 ZENAS C. CHAO | | |
| 群 | 自然科学科目群 | | | 分野(分類) | 生物学(各論) | | | 使用言語 | 英語 |
| 旧群 | B群 | 単位数 | 2単位 | 週コマ数 | 1コマ | 授業形態 | 講義 (対面授業科目) | | |
| 開講年度・ 開講期 | 2024・前期 | | 曜時限 | 月5 | | 配当学年 | 全回生 | 対象学生 | 全学向 |
| 【授業の概要・目的】 | | | | | | | | | |
| This course covers the basic background required to understand how networks of neurons could mediate complex functions of the brain. Students will learn topics ranging from the electrical properties of an individual neuron to higher brain functions, such as memory and consciousness. In this class, more emphasis is put on real-world assignments. For example, students may interview a neuroscientist or review a neuroscience topic of their choice with a written report or YouTube video. | | | | | | | | | |
| 【到達目標】 | | | | | | | | | |
| (1) To understand the basic components of the nervous system. (2) To appreciate the complexity of brain functions and to understand their biological basis. (3) To independently obtain, review, and share exciting topics in neuroscience research. | | | | | | | | | |
| 【授業計画と内容】 | | | | | | | | | |
| (1) Introduction PART I. Neurons & Neural Networks (2) Neurons & Glia (3) The Resting Potential (4) The Action Potential & Its Propagation (5) Synaptic Transmission & Plasticity (6) Neurotransmitters & Neuromodulators (7) Computation in Neuronal Circuits PART II. Functions of the Brain (8) Vision (9) Audition (10) Gustation, Olfaction, & Somatic Sense (11) Motor Control (12) Learning & Memory (13) Attention & Consciousness (14) Social Cognition (15) Final Exam (16) Feedback | | | | | | | | | |
| 【履修要件】 | | | | | | | | | |
| 特になし | | | | | | | | | |
| ----- Fundamentals of Neuroscience-E2(2)へ続く ----- | | | | | | | | | |

Fundamentals of Neuroscience-E2(2)

[成績評価の方法・観点]

Participation (~20%), assignments (~30%), quizzes (~20%), final exam (~30%).

[教科書]

授業中に指示する

Lecture notes will be provided.

[参考書等]

(参考書)

Mark Bear, Barry Connors, Mike Paradiso 『Neuroscience: Exploring the Brain』 (Wolters Kluwer) ISBN: 1451109547 (Not mandatory)

UTHealth Neuroscience Online Textbook: <http://neuroscience.uth.tmc.edu/>

[授業外学修 (予習・復習) 等]

Students are expected to be active participants in class discussions, and to spend 1~2 hours per week to review the course materials. Opportunities to attend a research seminar or other research presentation will be announced throughout the course, and students may attend one of these representations and write up a short report for extra credit.

[その他 (オフィスアワー等)]