Course title: Brain science e-learning

Term: 前期 1st Half

Credit(s): 1

The main day: The main period

Program/Department: 48 Physiological Sciences

Lecturers

成績評価区分: A,B,C,Dの4段階評価 Four-grade evaluation

レベル: Level 2

力量: Academic expertise、独創性 Creativity

Outline

Basic knowledge necessary for brain science can be learned through an e-learning system with lecture and small tests.

Learning objectives

To obtain the foundation of the brain science and understand the fundamental subjects correctly.

Grading policy

Students are required to view all the lectures one by one and complete Challenge Quizzes set at the end of respective topics as well as Mini Tests. And students will be assigned to take the Assessment in the designated period. The grades will be determined by the progression status of Mini Tests and the scores of the Assessment. Students can take the Assessment only once following period 1st semester: from June 3 to August 2, 2024.

Lecture Plan

Schedule: At any time within an academic year

URL: https://sakura.nips.ac.jp/moodle/

Lecture plan:

1. BASIC Understanding of brain as a system
   1. Clues to understand the brain
   2. Development of brain and its shape
   3. Functional elements supporting brain functions
   4. Mechanisms for brain functions
   5. Information signals and their managements in brain

2. Functions (Sensation) External recognition systems
   1. Informatization of various sensory signals
   2. Sensors placed throughout the body “Somatic sensation”
   3. The mechanism of visual sensation
   4. The mechanism of auditory sensation
   5. The mechanism of olfactory sensation
   6. The mechanism of gustatory sensation

3. Motor Function Transmitting motor command and its regulation
   1. Mechanism by which nerve signals cause movement
   2. Regulation of skeletal muscle movement by the spinal cord
   3. Planning of movements and mechanism controlling smooth movements
   4. Motor control by the cerebellum

4. Integrated Auto-regulator
   1. Hypothalamus
   2. Autonomic nervous system
   3. Wide area regulation of brain by neurotransmitter
   4. Diffuse modulatory system composed by astrocyte
5. Higher brain functions
   1. Emotion
   2. Linguistic abilities
   3. Memory ability

### Location

https://sakura.nips.ac.jp/moodle/
履修届けを提出した学生にログインIDが発行されます。
発行されたIDによりログイン後、自主学習を行ってください。

### Language

English

### Textbooks and references


### Notes for students of other programs

Nothing particular

### Keyword

E-learning

### Contact for Course Inquiries

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