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| Course title | Brain science e-learning |
| Term | 後期 2nd Half |
| Credit(s) | 1 |
| The main day | The main period |
| Program/Department | 48 Physiological Sciences |
| Lecturers | |
| 成績評価区分 Grading Scale | A, B, C, Dの4段階評価 Four-grade evaluation |
| レベル Level | Level 2 |
| 力量 Competence | 専門力 Academic expertise、独創性 Creativity |

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| Instructor |
| Full name |
| * ISODA MASAKI |

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| 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 2nd semester: from November 2, 2026 to January 30, 2027. |
| 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/ Login IDs will be issued to students who have submitted their course registration. Please log in with your ID to engage in self-study. |
| Language | English |
| Textbooks and references | 工藤佳久『もっとよくわかる! 脳神経科学~やっぱり脳はスゴイのだ! (実験医学別冊 もっとよくわかる! シリーズ)』羊土社、2013年、255p. (ISBN:978-4758122016) |
| Notes for students of other programs | Please contact the Graduate Student Affairs Section at NIPS in advance: sokendai-adm@nips.ac.jp |
| Keyword | E-learning |
| Contact for Course Inquiries | Masaki Isoda (isodam@nips.ac.jp) |