<table>
<thead>
<tr>
<th>Course title</th>
<th>Basic physiological and anatomical brain science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term</td>
<td>前期 1st Half</td>
</tr>
<tr>
<td>Credit(s)</td>
<td>1</td>
</tr>
<tr>
<td>The main day</td>
<td>The main period</td>
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<tr>
<td>School/Program</td>
<td>School of Life Science</td>
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<tr>
<td>Department/Program</td>
<td>Department of Physiological Sciences</td>
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<tr>
<td>Category</td>
<td>Physiological Sciences</td>
</tr>
<tr>
<td>Lecturers</td>
<td>Yoshihiro Kubo, Masaki Fukata, and others</td>
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</tbody>
</table>

**Instructor**

- NAMBU ATSUSHI

**Outline**

Basic physiology and anatomy on brains can be learned through 10 lectures.

**Goal**

- Can discuss with others on basic neuroscience.
- Can write a summary of a research paper.

**Grading system**

- Four-grade evaluation (A, B, C, D)

**Grading policy**

- Students must attend at least half of the lectures to get credit.
- They must also attend the journal club (9th, 10th lecture).
- Write a summary of designated research papers (50% each). The paper will be graded by the lecturer, and it will be used to determine pass/fail.

**Lecture Plan**

Schedule: May 12 - July 14, 2021, 10:00-11:30 on Wednesdays

Contents:

1. Chapter 2, 3, 4 (May 12, Kubo)
2. Neurons and Glia
3. The Neuronal Membrane at Rest
4. The Action Potential
5. Synaptic Transmission
6. Neurotransmitter Systems
7. The Structure of the Nervous System
8. The Chemical Senses
9. The Eye
10. The Central Visual System
11. Chapter 11, 12, 13 (June 2, Tominaga)
12. The Auditory and Vestibular Systems
13. The Somatic Sensory System
14. Spinal Control of Movement
15. Chapter 14, 15, 16 (June 9, Nambu)
16. Brain Control of Movement
17. Chemical Control of the Brain and Behavior
18. Motivation
19. Chapter 17, 18, 19 (June 16, Minokoshi)
20. Sex and the Brain
22. Brain Rhythms and Sleep
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Instructor</th>
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</thead>
<tbody>
<tr>
<td>20, 21, 22</td>
<td>Language, The Resting Brain, Attention, and Consciousness, Mental Illness</td>
<td>Sadato</td>
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<tr>
<td>23, 24, 25</td>
<td>Wiring the Brain, Memory Systems, Molecular Mechanisms of Learning and Memory</td>
<td>Isoda</td>
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<tr>
<td>9</td>
<td>Journal club 1</td>
<td>Furuse</td>
</tr>
<tr>
<td>10</td>
<td>Journal club 2</td>
<td>Nemoto</td>
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**Location**
- Zoom online

**Language**
- English

**Textbooks and references**
  Students are strongly recommended to purchase the textbook. However it is not mandatory to bring it to class.
  Paper info for lecture #9, #10 will be presented before lecture.

**Related URL**
- [http://sbsjp.nips.ac.jp/schedule/](http://sbsjp.nips.ac.jp/schedule/)

**Explanatory note on above URL**
- Please keep be updated on the latest schedule from "Schedule of the classes" on the program website.

**Others**
- Assignment:
  1. Read the textbook before coming to class.
  2. Those who are attending the journal club must read the designated paper so that they may explain it to others. (It might be a good idea to summarize it in slides.)

**Keyword**
- SOKENDAI Integrative Brain Science Course