

# 2023 IBB Study Materials

| Neuroscience Areas                                    | Study Resources   |
|---|---|
| <b>Development of the nervous system</b>              | <ol style="list-style-type: none"> <li>1) The IBB Neuroanatomy supplement</li> <li>2) Brain Facts Chapter 6</li> <li>3) The Brain (Watson Kirkaldie &amp; Paxinos), Ch. 10</li> </ol>   |
| <b>Cellular organization of the nervous system</b>    | <ol style="list-style-type: none"> <li>1) The IBB Neuroanatomy supplement</li> <li>2) Neuroscience: Canadian 1st Edition Open Textbook (Dr. William Ju): Chapter 1.1<br/><a href="http://neuroscience.opentext.utoronto.ca/chapter/anatomy-physiology-the-cellular-levels-of-organization/">http://neuroscience.opentext.utoronto.ca/chapter/anatomy-physiology-the-cellular-levels-of-organization/</a></li> </ol>   |
| <b>Neuroanatomy</b>                                   | The IBB Neuroanatomy supplement   |
| <b>Neural communication (electrical and chemical)</b> | <ol style="list-style-type: none"> <li>1) "Cellular and molecular neurophysiology" third or fourth edition by Constance Hammond, Chapters 3 and 4</li> <li>2) Nicholas Sperelakis-Cell Physiology Source Book, Fourth Edition Section V: <ul style="list-style-type: none"> <li>·32. Synaptic Transmission 563</li> <li>·33. Excitatory Secretion Coupling 579</li> </ul> </li> </ol>   |
| <b>Sensory system</b>                                 | <ol style="list-style-type: none"> <li>1) The IBB Neuroanatomy supplement</li> <li>2) <a href="https://www.austinlim.com/open-neuroscience-initiative">https://www.austinlim.com/open-neuroscience-initiative</a>, Chapters 7, 8 and 9</li> </ol>   |
| <b>Motor system</b>                                   | <ol style="list-style-type: none"> <li>1) <a href="https://www.austinlim.com/open-neuroscience-initiative">https://www.austinlim.com/open-neuroscience-initiative</a>: Chapter 10</li> <li>2) <a href="https://nba.uth.tmc.edu/neuroscience/toc.htm">https://nba.uth.tmc.edu/neuroscience/toc.htm</a>: Section 3</li> <li>3) The IBB Neuroanatomy supplement</li> </ol>   |
| <b>Higher Cognition</b>                               | <p><b>Recommended study materials:</b></p> <ul style="list-style-type: none"> <li>- <b>Overview of functional specificity in the mind and brain</b> <ul style="list-style-type: none"> <li>• <a href="https://www.pnas.org/doi/10.1073/pnas.1005062107">https://www.pnas.org/doi/10.1073/pnas.1005062107</a></li> </ul> </li> <li>- <b>Language</b> <ul style="list-style-type: none"> <li>• <a href="https://evlab.mit.edu/assets/papers/Fedorenko_%26_Varley_2016_ANYAS.pdf">https://evlab.mit.edu/assets/papers/Fedorenko %26 Varley 2016 ANYAS.pdf</a></li> <li>• <a href="https://www.mpi.nl/sites/default/files/media/video/nbl/keyissues2021/Fedorenko_MPI.mp4">https://www.mpi.nl/sites/default/files/media/video/nbl/keyissues2021/Fedorenko MPI.mp4</a></li> </ul> </li> <li>- <b>Attention and Cognitive Control</b> <ul style="list-style-type: none"> <li>• <a href="https://journals.sagepub.com/doi/pdf/10.1080/17470210500260674">https://journals.sagepub.com/doi/pdf/10.1080/17470210500260674</a></li> </ul> </li> <li>- <b>Emotions</b> <ul style="list-style-type: none"> <li>• <a href="http://dx.doi.org/10.1016/j.neuron.2012.02.004">http://dx.doi.org/10.1016/j.neuron.2012.02.004</a></li> </ul> </li> <li>- <b>Memory</b> <ul style="list-style-type: none"> <li>• <a href="https://doi.org/10.1016/S0896-6273(00)80987-3">https://doi.org/10.1016/S0896-6273(00)80987-3</a></li> </ul> </li> </ul> <p><b>Optional study materials:</b></p> <ul style="list-style-type: none"> <li>• <a href="https://www.austinlim.com/open-neuroscience-initiative">https://www.austinlim.com/open-neuroscience-initiative</a>: Chapters 13-15</li> </ul> |
| <b>Diseases of the Brain</b>                          | <p><b>Recommended study materials:</b></p> <ol style="list-style-type: none"> <li>1) Neurology supplement</li> <li>2) <a href="https://openbiologyjournal.com/VOLUME/8/PAGE/6/">https://openbiologyjournal.com/VOLUME/8/PAGE/6/</a></li> </ol> <p><b>Optional study materials:</b></p> <ul style="list-style-type: none"> <li>• <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7555053/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7555053/</a></li> <li>• <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8837071/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8837071/</a></li> <li>• <a href="https://www.mdpi.com/2076-3425/13/2/318">https://www.mdpi.com/2076-3425/13/2/318</a></li> <li>• <a href="https://www.alz.org/alzheimers-dementia/what-is-dementia">https://www.alz.org/alzheimers-dementia/what-is-dementia</a></li> </ul>   |