ZOO 331: NEUROPHYSIOLOGY (CLUSTER B: LIFE PROCESSES)

Edit

Announcements Edit

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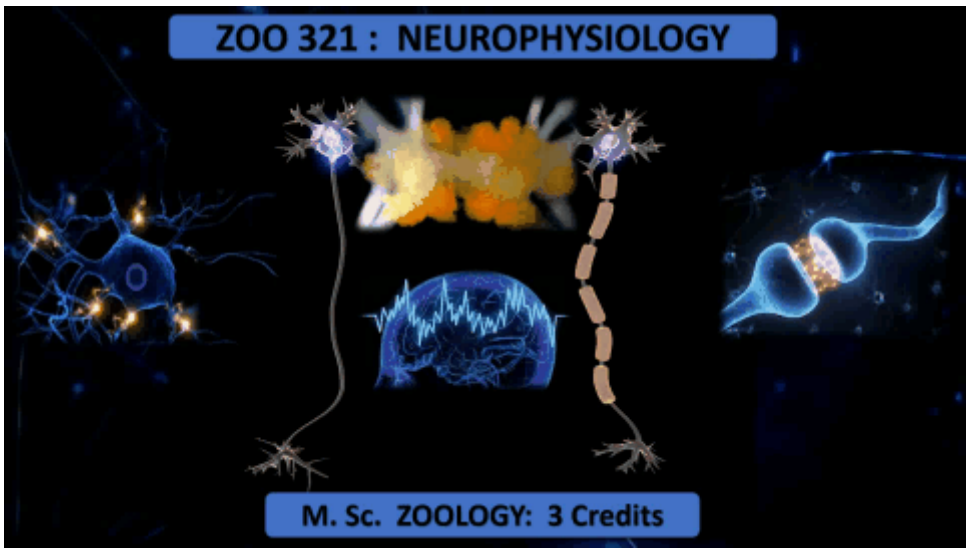
ZOO 331 Neurophysiology Edit



Course details Edit

Course Schedule Edit

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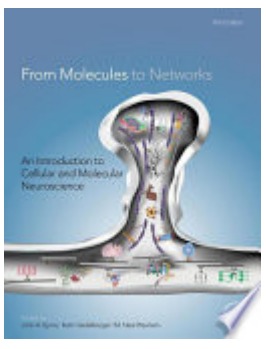
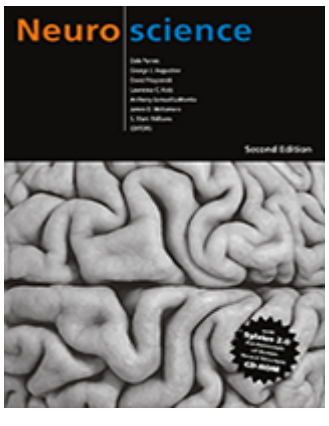
BOOKS Edit

From Molecules to Networks: An Introduction to Cellular and Molecular ... edited by John H. Byrne, Ruth Heidelberger, M. Neal Waxham Edit

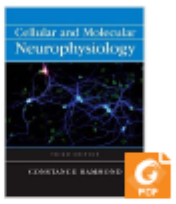


Neuroscience, 2nd edition Editors: Dale Purves, George J Augustine, David Fitzpatrick, Lawrence C Katz, Anthony-Samuel LaMantia, James O McNamara, and S Mark Williams. Edit



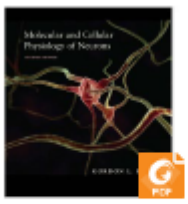
Neuroscience books folder Edit

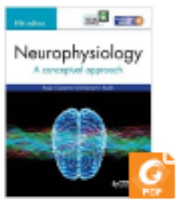

Basic Neurochemistry. Principles of Molecular, Cell...



Cellular and Molecular Neurophysiology , Third Edition (...


Gazzaniga. The Cognitive Neurosciences


Molecular and Cellular Physiology of Neurons, Seco...



Neurophysiology _ a conceptual approach (PDFDrive)

Neurophysiology complete note from SlideShare for reference Edit

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Module 1 Edit

Review of classification of neurons and their functions. Blood brain barrier and its physiological importance, CSF composition, formation and drainage. Physiological characteristics of neuronal cell membrane components for impulse conduction. Electrophysiology of neuron. Comparison of action potentials of Giant axon of Squid and mammalian neuron, Voltage and Cell-Patch Clamp Techniques. Myelin ultrastructure and Nodes of Ranvier, Nerve impulse conduction in Myelinated and Unmyelinated neurons.

Lecture 1 Administrative lecture Edit

Lecture 1 video Edit

Lecture 2 Edit

Review of classification of neurons and their functions.

Lecture 2 video Part 1 Edit

Lecture 2 video Part 2 Edit

Lecture 3 Edit

Blood brain barrier and its physiological importance, CSF composition, formation and drainage.

Lecture 2 video Part 3 continued with lecture 3 video part 1 Edit

Lecture 3 video part 2 Edit

Lecture 3 video part 3 Edit

Lecture 4 Edit

Physiological characteristics of neuronal cell membrane components for impulse conduction.

Lecture 3 video part 4 continued with lecture 4 part 1 Edit

Lecture 4 video part 2 Edit

Lecture 5 Edit

Electrophysiology of Neuron

Lecture 6 full Edit

Voltage and Cell-Patch Clamp Techniques

Lecture 6 video part 1 Edit

Lecture 7 handout Edit

Myelin ultrastructure and Nodes of Ranvier, Nerve impulse conduction in Myelinated and Unmyelinated neurons

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Module 2

Edit

Types of synaptic connection and their conduction physiology: Axosomatic, axodendritic, Dendro-dendritic and Axo-axonal synapses. Chemical and electrical synapse. Axonal impulse conduction-excitatory and inhibitory synaptic transmission. Properties of Synapse. Effect of Acidosis & Alkalosis, Effect of Hypoxia on Synaptic Transmission, Effect of Narcotic drugs on Synaptic Transmission. Basic concept of Neural integration: Diverging, Converging and Reverberating circuits.

- Lecture 13 handouts — Edit
- Lecture 14 handouts — Edit
- Video link for activity — Edit

  Part I & II Video shown in the class:

Reference videos:

Lecture 15 Edit

Lecture 16 Edit

Lecture 17 18 Edit

Lecture 19 Edit

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Module 3

Edit

Learning and Memory types and its Neural and Cellular basis in Aplysia, Drosophila, Honey bee and Humans. Cognition and its major domains. Mechanoreception, Photoreception, Chemoreception. Neurophysiology of Balance and Posture.

Lecture 18 handout 25-28 Edit

Lecture 29-30 handout Edit

Lecture 31-32 handout Edit

Presentation Topics Edit

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Life Processes Practical

Edit

Experiment 1 learning and memory pdf 1 on snail experiment Edit

Experiment 1 learning and memory pdf 1 on Crab Edit

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