



## NEUROBIOLOGY (AL-FARABI KAZAKH NATIONAL UNIVERSITY).

**40 hours**

**November 2014 WEEK-1**

| Day      |                                       |  |  |  |   |
|----------|---------------------------------------|--|--|--|---|
| <b>1</b> | T1. The neuron and its environment    | T2. Transport across the neuronal membrane: ionic channels | T3. Transport across the neuronal membrane: transporters | T4. Transport across the neuronal membrane: exocytosis     | T5. Work in groups<br>Practical Exercises   |
| <b>2</b> | T6. Neuronal receptors                | T7. Contact communication                                  | T8. Long distance neuronal communication                 | T9. Paracrine communication. Nitric oxide                  | T10. Work in groups.<br>Practical Exercises |
| <b>3</b> | T11. Membrane potential               | T12. Passive neuronal membrane properties                  | T13. Generation and propagation of action potentials     |  | T14. Work in groups.<br>Practical Exercises |
| <b>4</b> | T15. Synapses. Presynaptic mechanisms | T16. Synapses Postsynaptic mechanisms                      | T17. GABergic synapses                                   | T18. Work in groups.<br>Practical Exercises: Clinical case |   |

En coordinación con Aula Universitaria Hispano-Rusa





## NEUROBIOLOGY (AL-FARABI KAZAKH NATIONAL UNIVERSITY).

**40 hours**

**November 2014 WEEK-2**

| Day |                             |                         |                    |   |  |
|-----|-----------------------------|-------------------------|--------------------|---|--|
| 5   | T19. Glutamatergic synapses | T20. Aminergic Synapses | T21. Neuropeptides | T22.<br>Work in groups.<br>Practical Exercises: Clinical Case |  |

| Day |                                   |   |  |  |  |
|-----|-----------------------------------|---|--|--|--|
| 6   | T23. Electrophysiology techniques | T24. Computer-simulated practical exercises |  |  |  |

| Day |                   |                         |  |   |  |
|-----|-------------------|-------------------------|--|---|--|
| 7   | T25. Neurogenesis | T26. Adult neurogenesis | T27. Adult Neurogenesis and injury regeneration. | T28: Adult Neurogenesis:methionine metabolism | T29. Work in groups. Practical Exercises |

| Day |   |  |  |                             |  |
|-----|---|--|--|-----------------------------|--|
| 8   | T30. Adult Neurogenesis PKC. Pharmacological agents | T31. Patent applications in neurobiology |  | T32. Ph.D. in Neurobiology. |  |

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