



| NEUROSCIENCES | |
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| Enrollment year | 2017/2018 |
| Academic year | 2019/2020 |
| Regulations | DM270 |
| Academic discipline | BIO/09 (PHYSIOLOGY) |
| Department | DEPARTMENT OF PHYSICS |
| Course | PHYSICS |
| Curriculum | PERCORSO COMUNE |
| Year of study | 3° |
| Period | 2nd semester (02/03/2020 - 12/06/2020) |
| ECTS | 3 |
| Lesson hours | 24 lesson hours |
| Language | Italian |
| Activity type | ORAL TEST |
| Teacher | D'ANGELO EGIDIO UGO (titolare) - 3 ECTS |
| Prerequisites | |
| Learning outcomes | |
| Course contents | <p>The Neuroscience course is aimed at understanding the main functions and dysfunctions of the nervous system. Particular attention will be devoted to the relationships between molecular, cellular, and system events, conditions and principles of pharmacological intervention. The course will cover the following aspects.</p> <ul style="list-style-type: none">• Biophysical and biochemical functions of neurons. Mathematical models of neurons and synapses.• Coding of information in neurons and synapses. Principles of information theory.• Mechanisms of synaptic plasticity. Induction and expression. Cellular memory foundations. |

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| | <ul style="list-style-type: none"> • Relationship between the cellular properties and behavior: animal models and neural networks. Animal models for the study of nervous system disorders. Circuit and cellular principles of generation of higher functions. • Consciousness, memory. Attention, motivation, reward. Thought, perception, and motor skills. • Pathophysiology: main pathologies • Principles of therapy of nervous system disorders. |
| Teaching methods | Practical exercise: none |
| Reccomended or required readings | E. D'Angelo, A. Peres, "Fisiologia: Molecole, Cellule e Sistemi", Vol I-II; EDI-ERMES. |
| Assessment methods | No in itinere tests. |
| Further information | |
| Sustainable development goals - Agenda 2030 | \$lbl legenda sviluppo sostenibile |