

## SYLLABUS DEL CORSO

### 50 Neuro-Idee: Dal neurone alla Neuroetica

2526-122R-25

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#### Title

50 Neuro-Ideas: from the neuron to neuroethics

#### Teacher

Prof. Lucio Tremolizzo

#### Language

Italian

#### Short description

In this course we will address in a agile manner, 50 basic neuroscience ideas, outlining a continuum:

- **STRUCTURE AND FUNCTION OF THE NERVOUS SYSTEM**  
01 The nervous system, 02 The neuron doctrine, 03 Glial cells, 04 The nervous impulse, 05 Synaptic transmission, 06 Sensory perception, 07 Movement, 08 Topographic mapping  
09 Specialized brain regions, 10 Brain asymmetry
- **YOUR BRAIN, YOUR SELF**

11 Mirror neurons, 12 The connectome, 13 Embodied cognition, 14 Bodily awareness, 15 Free will, 16 Sex differences, 17 Personality, 18 Brain-damaged patients, 19 The theatre of consciousness, 20 Consciousness disorders

- **THOUGHT PROCESSES**

21 Attention, 22 Working memory, 23 Learning and memory, 24 Mental time travel, 25 Memory (re)consolidation, 26 Decision-making, 27 Reward and motivation, 28 Language processing, 29 Executive function

- **THE DYNAMIC BRAIN**

30 Cell migration and axon pathfinding, 31 Cell death, 32 Synaptic pruning, 33 Neuroplasticity, 34 Adolescence, 35 Stress and the brain, 36 The ageing brain, 37 Neurodegeneration

- **BREAKING FROM DOGMA**

38 Adult neurogenesis, 39 Epigenetics, 40 Default mode, 41 Brain-wave oscillations, 42 Prediction error

- **EMERGING TECHNOLOGIES AND CHALLENGES**

43 Neural stem cells, 44 Brain stimulation, 45 Cognitive enhancement, 46 Brain scanning, 47 Decoding, 48 Brain-computer interfacing, 49 Neuroscience and the law, 50 Neuroethics

## **Target audience**

PhD students: neuroscience interdisciplinary course

## **Maximum number of participants**

open

## **Assessment method**

discussion

## **CFU / Hours**

1 CFU/8 hours

## **Teaching period and mode**

May 12-19-26 2026, hours 14-17

## **Sustainable Development Goals**

GOOD HEALTH AND WELL-BEING

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