Màster en Neurociències

Master in Neurosciences

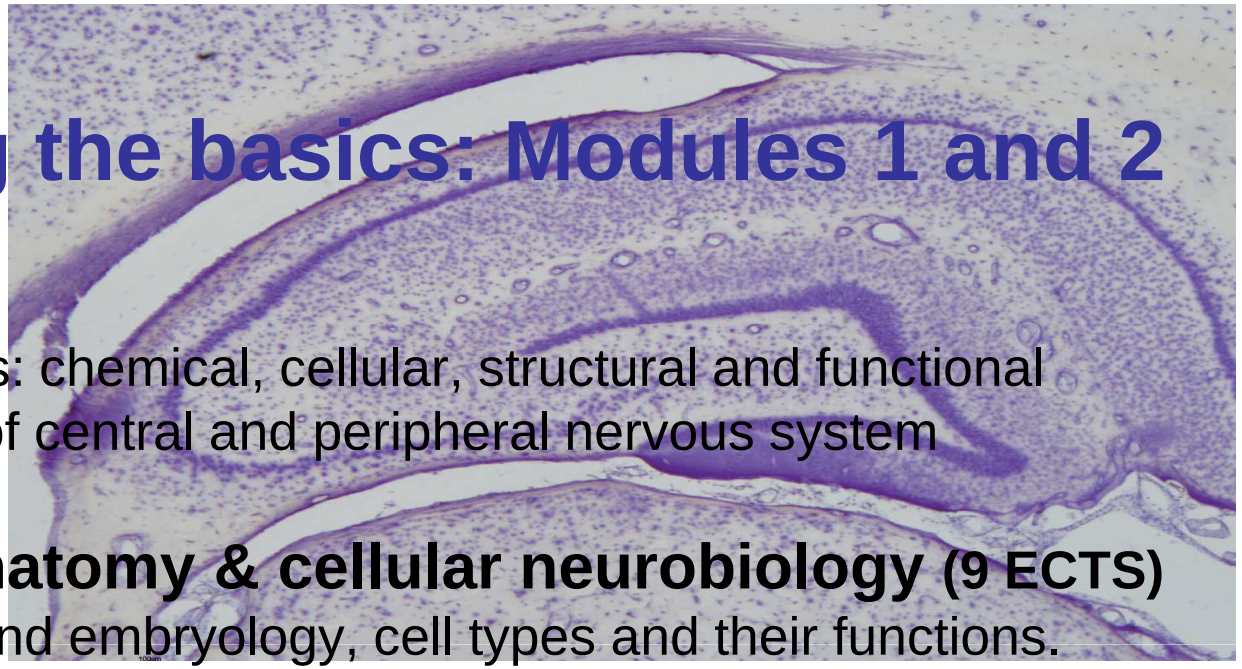
http://pagines.uab.cat/masterneurociencies

60 credits granting access to the Ph.D. program in Neurosciences

The UAB Master in Neurosciences is member of NENS, the Network of European Neuroscience Schools ***http://fens.mdc-berlin.de/nens/***

Our teaching aim: To educate future scientists to analyze the causes and consequences of pathological conditions of the nervous system, and pave the way for new therapeutic treatments.

Learning the basics: Modules 1 and 2

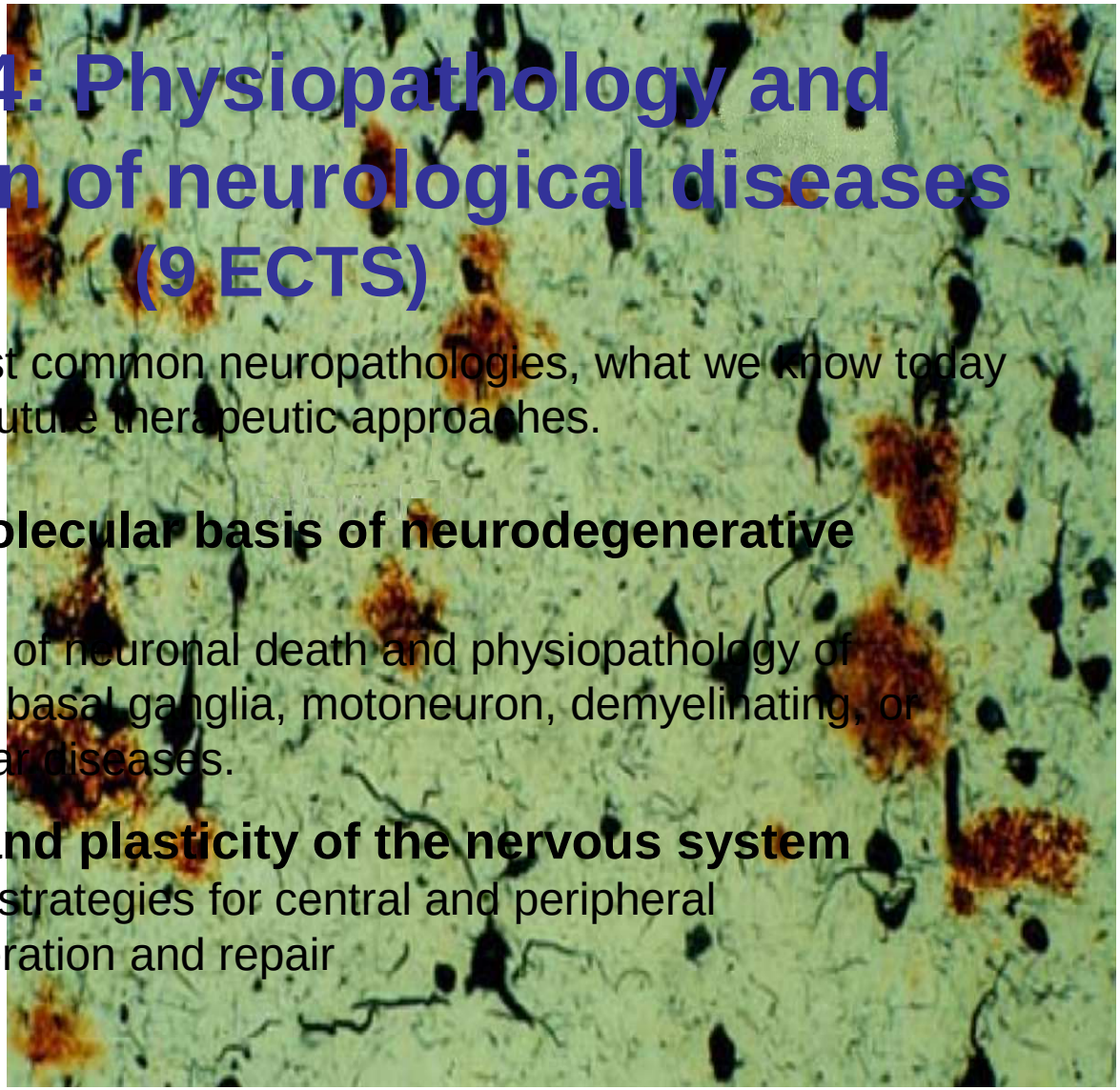


Learning the basics: chemical, cellular, structural and functional characteristics of central and peripheral nervous system

- ✓ **M1)Neuroanatomy & cellular neurobiology (9 ECTS)**
  Anatomy and embryology, cell types and their functions.

- ✓ **M2) Molecular neurobiology & neurophysiology (9 ECTS)**
  Neurotransmitters, their receptors, and what can we do to block, mimic or potentiate their actions.
  How the CNS works: electrical phenomena, circuits, motor & sensory systems, integrative functions

Module 4: Physiopathology and regeneration of neurological diseases (9 ECTS)



One step ahead: the most common neuropathologies, what we know today about fighting them and future therapeutic approaches.

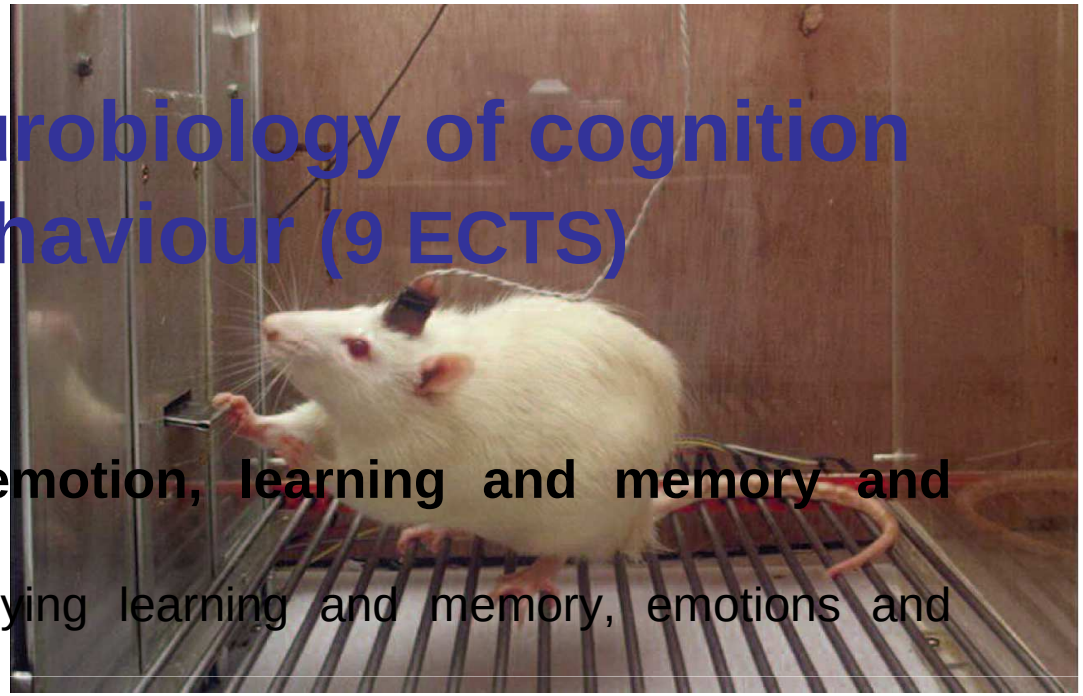
- ✓ **Cellular and molecular basis of neurodegenerative processes**

  Mechanisms of neuronal death and physiopathology of Alzheimer's, basal ganglia, motoneuron, demyelinating, or neurovascular diseases.

- ✓ **Regeneration and plasticity of the nervous system**

  Therapeutic strategies for central and peripheral neuroregeneration and repair

Module 5: Neurobiology of cognition and behaviour (9 ECTS)



- ✓ **Psychobiology of emotion, learning and memory and consciousness**

  Mechanisms underlying learning and memory, emotions and consciousness

- ✓ **Neuroendocrinology of stress, hormonal diseases of behaviour and animal models in psychopathology**

  Psycho-endocrine mechanisms of stress and main hormonal diseases of behavior, including animal models for research in psychopathology

- ✓ **Neurobiology of mental pathologies**

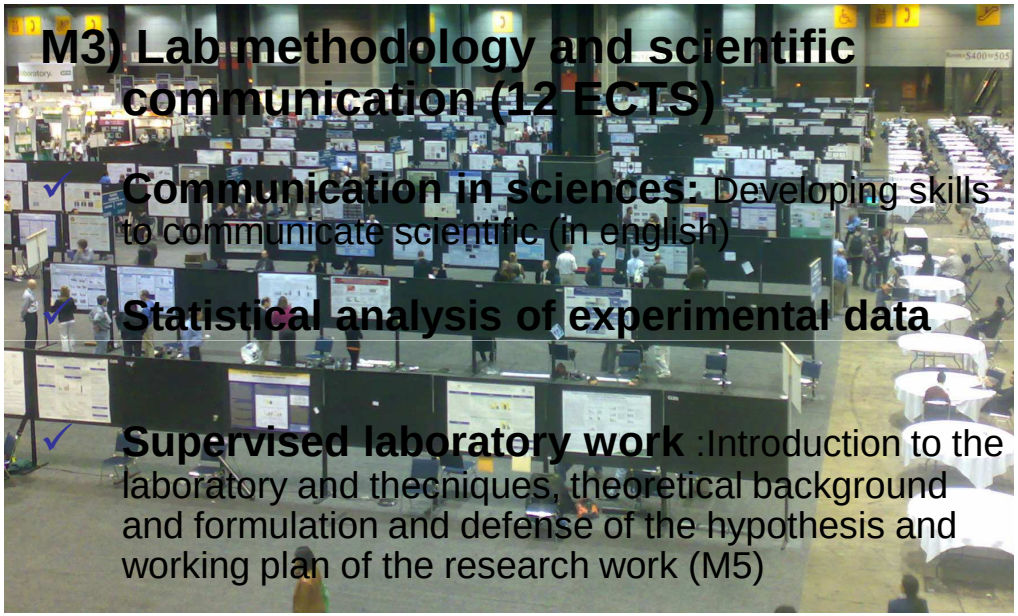
  Neurobiology of drug addition and antisocial behavior, cognitive changes in normal and pathological aging and the basic neurogenetic models for the study of mental pathologies

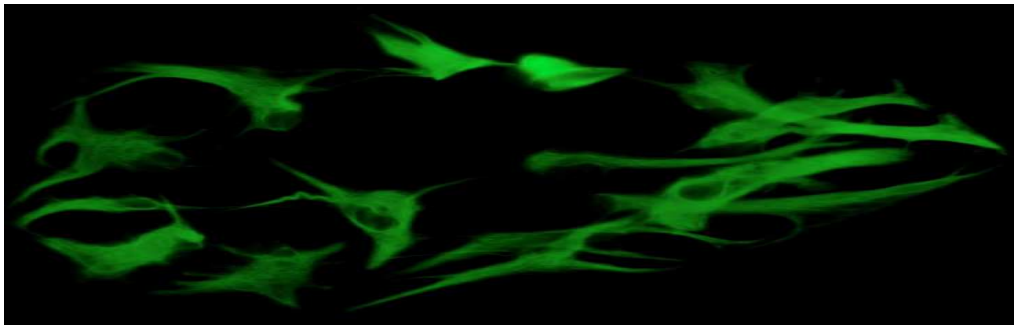
Module 3&6: Introduction to science and supervised laboratory work

Choose among 33 leading research groups addressing

✓ Neurodegeneration and ageing
✓ Neuroregeneration and repair
✓ Neurobiology of the normal and disturbed mind
✓ Enteric neurosciences

WHERE?
http://inc.uab.cat/
then click GROUPS





Schedule

Morning theoretical classes (usually 2h from 9 to 11h).
Lab work
Autonomous study

1st semester	2nd semester
Neuroanatomy and cellular neurobiology (9ECTS)	Physiopathology and regeneration of neurological diseases (9ECTS)
Molecular neurobiology and neurophysiology (9ECTS)	Neurobiology of cognition and behaviou (9 ECTS)
Lab methodology and scientific skills (12 ECTS)	Research work (12 ECTS)

MULTIDISCIPLINARY TEACHING TEAM

Institut of Neurosciences

Faculty of Biosciences

Faculty of Medicine

Faculty of Psycologhy

Faculty of Veterinary

coordination: esther.udina@uab.cat