

CdS Medicine and Surgery

2nd year (2nd semester)
A.Y. 2026-27

COD:	Scientific Field HUMAN ANATOMY II	TUTOR - Docente	ECTS -CFU
	Modules		
Bios 12A	Human Anatomy II	Susanna Dolci	5
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COORDINATOR-Coordinatore:

Susanna Dolci

SPECIFIC AIMS :

EN:

OBIETTIVI FORMATIVI:

IT:

PROGRAM - PROGRAMMA

EN: MICROSCOPIC STRUCTURES UNDERLYING THE FUNCTIONING OF THE NERVOUS SYSTEM: sensory receptors (proprioceptors and exteroceptors), neurons, glia, myelin, synapses.

- GENERAL ORGANIZATION OF CONSCIOUS AND UNCONSCIOUS SENSITIVE PATHWAYS.
- SPINAL CORD: gray and white matter of the spinal cord, the reflex arcs.
- BRAIN STEM: medulla oblongata, pons, midbrain, peduncles, main gray formations, links with other districts of the CNS.
- CEREBELLUM: microscopic structure, afferent and efferent pathways.
- DIENCEPHALON: thalamus, epithalamus, subthalamus, metathalamus, the bulb – diencephalic reticular formation, the hypothalamus.
- TELEENCEPHALON: the basal ganglia, cerebral hemispheres, cortical areas and systems of association; histological structure of the cerebral cortex, the limbic lobe and the hippocampus.
- FUNCTIONAL SYSTEMS: pyramidal and extrapyramidal pathways, the pathways of epicritic and protopathic sensitivity.
- CRANIAL NERVE NUCLEI AND THEIR FUNCTIONAL SPECIALIZATION.

IT:

STRUTTURE MICROSCOPICHE ALLA BASE DEL FUNZIONAMENTO DEL SISTEMA NERVOSO: recettori sensoriali (propriocettori ed esteroceettori), neuroni, glia, mielina, sinapsi.

- ORGANIZZAZIONE GENERALE DELLE VIE SENSITIVE COSCIENTI E INCOSCIENTI.
- MIDOLLO SPINALE: sostanza grigia e sostanza bianca del midollo spinale, gli archi riflessi.
- TRONCO ENCEFALICO: midollo allungato, ponte, mesencefalo, peduncoli, principali formazioni grigie, connessioni con altri distretti del SNC.
- CERVELLETTO: struttura microscopica, vie afferenti ed efferenti.
- DIENCEFALO: talamo, epitalamo, subtalamo, metatalamo, il bulbo – formazione reticolare diencefalica, l'ipotalamo.

- TELENCEFALO: i gangli della base, emisferi cerebrali, aree corticali e sistemi di associazione; struttura istologica della corteccia cerebrale, il lobo limbico e l'ippocampo.
- SISTEMI FUNZIONALI: vie piramidali ed extrapiramidali, le vie della sensibilità epicritica e protopatica.
- NUCLEI DEI NERVI CRANICI E LA LORO SPECIALIZZAZIONE FUNZIONALE.

TEXTBOOKS

EN: - Gray's Anatomy (latest edition)

- SUPPLEMENTARY TEXT (For Neuroanatomy): Clinical Neuroanatomy (R. Snell, latest edition)
- ATLAS: Netter (latest edition)

TESTI DI RIFERIMENTO

IT: - Gray's Anatomy (ultima edizione)

- SUPPLEMENTARY TEXT (For Neuroanatomy): Clinical Neuroanatomy (R. Snell, ultima edizione)
- ATLAS: Netter (ultima edizione)

TEACHING METHODS	EN:Frontal class Laboratory class utilizing Anatomage
METODI DIDATTICI	IT: Lezione frontale Laboratorio con l'utilizzo di Anatomage

EXAM METHODS	EN: oral exam
MODALITA' DI VALUTAZIONE	IT: esame orale



EXAM COMMISSION	EN: IT:
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Susanna Dolci, President
Pamela Bielli

CONTACTS-CONTATTI

Professor	email	tel
Susanna Dolci	dolci@uniroma2.it	0672596252

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PREREQUISITES-PREREQUISITI

EN:

IT:

The specific learning outcomes of the program are coherent with the general provisions of the Bologna Process and the specific provisions of EC Directive 2005/36/EC. They lie within the European Qualifications Framework (Dublin Descriptors) as follows:

PREREQUISITES: Previous knowledge and competence in the following subjects:

Human Anatomy 1, Chemistry and Introductory Biochemistry, Histology and Embryology, Biology and Genetics.

The specific learning outcomes of the program are coherent with the general provisions of the Bologna Process and the specific provisions of EC Directive 2005/36/EC. They lie within the European Qualifications Framework (Dublin Descriptors) as follows:

1. Knowledge and Understanding

- Provide a detailed description of the topography and structural organization of the brain and spinal cord as well as the ultrastructure of neurons and glia and the major cytoarchitectural features of the brain and spinal cord.
- Obtain an understanding of the functional anatomy of sensory and motor processing and higher cerebral functions such as language and emotions.
- Achieve the ability to integrate from the cellular and molecular level to the organ system level of organization and realize the fundamental role of the nervous system in the maintenance of a proper internal environment.
- Understand the principles of blood supply and venous drainage of the nervous system. To be able to deduce the effects of rupture or occlusion of the major vessels.
- Present an overview of the main mechanism of organogenesis and the consequences of specific alterations.

2. **Applying Knowledge and Understanding**

- Apply the theoretic knowledge to the clinical setting, being able to recognize the general diagnostic aspects of the nervous system diseases.
- To obtain a basic understanding of the techniques used to investigate morphology and connections of neurons to provide the basis for further research into the nervous system.
- Approach to the main functional diagnostic tests used to assess the activities of the nervous system and learn how to differentiate the physiological and pathological results.
- Provide a differential diagnosis based on specific clinical data, providing a comprehensive explanation of the underlying reasoning.
- Learn the practical aspects of the diagnostic instruments, when to use them and how to perform them.

3. **Making Judgements**

- Recognize the importance of an in-depth knowledge of the topics consistent with a proper medical education.
- Identify the fundamental role of a proper theoretic knowledge of the subject in the clinical practice.

4. **Communication Skills**

- Present topics orally in an organized and consistent manner.
- Use of proper scientific language coherent with the topic of discussion.

5. **Learning Skills**

- Identify the possible use of the acknowledged skills in the future career.
- Assess the importance of the acquired knowledge in the overall medical education process.