

**COURSE OF MEDICINE AND SURGERY**  
**Student Handbook a.y. 2014-2015**

**HUMAN ANATOMY I**

I Year	Scientific Field	DISCIPLINE	TUTOR
Human Anatomy I	BIO/16	<i>Locomotor System</i>	<b>Pellegrino Rossi</b>
	BIO/16	<i>Neuroanatomy</i>	<b>Susanna Dolci</b>
ECM 10 Coordinator Susanna Dolci			

**Specific aims**

Knowledge of the essential morphological characteristics of the Locomotor and of the Nervous Systems, including the cellular and functional level, using both a systematic and a regional (i.e. topographic, radiological, surgical) approach for the study of these essential elements of the human body. The student will learn the informations about the Anatomy of the Locomotor Apparatus and Neuroanatomy that deal with the examination of the patient.

**PROGRAM  
Locomotor Apparatus**

Introduction to the systematic study on the locomotor apparatus will be a discussion of the anatomical terminology: section types, terms of location and terms of movement. We will also describe the major topographic and functional subdivisions of the human body and surface anatomy. **OSTEOLOGY** : Morphology of the human skeleton: the axial skeleton, the exo and endocranium, the skeleton of the appendages. **ARTHROLOGY**: General information on joints, types of movements, joint dynamics. Joints of the skull, spine, chest, upper limb and lower limb. **Myology** : Shape and action of skeletal muscle; vertebral muscles of the neck and trunk, muscles of the chest, abdomen, muscles of upper and lower limbs. **NOTE** : skeletal muscles of the splanchnocranium, of the pelvic and urogenital diaphragm are only partially covered by the program of Human Anatomy I, but they will be treated in more detail with the cardiovascular system, microscopic anatomy and splanchnology in the integrated course of Human Anatomy II (first half of second year) Microscopic structures underlying the functioning of the nervous system: sensory receptors ( proprioceptors and esteroceptors), 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. Telencephalon: 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. Microscopic structures underlying the functioning of the nervous system: sensory receptors ( proprioceptors and esteroceptors), 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. Telencephalon: 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.

**PROGRAM  
Neuroanatomy**

Introduction to the systematic study on the locomotor apparatus will be a discussion of the anatomical terminology: section types, terms of location and terms of movement. We will also describe the major topographic and functional subdivisions of the human body and surface anatomy. **OSTEOLOGY** : Morphology of the human skeleton: the axial skeleton, the exo and endocranium, the skeleton of the appendages. **ARTHROLOGY**: General information on joints, types of movements, joint dynamics. Joints of the skull, spine, chest, upper limb and lower limb. **Myology** : Shape and action of skeletal muscle; vertebral muscles of the neck and trunk, muscles of the chest, abdomen, muscles of upper and lower limbs. **NOTE** : skeletal muscles of the splanchnocranium, of the pelvic and urogenital diaphragm are only partially covered by the program of Human Anatomy I, but they will be treated in more detail with the cardiovascular system, microscopic anatomy and splanchnology in the integrated course of Human Anatomy II (first half of second year) Microscopic structures underlying the functioning of the nervous system: sensory receptors ( proprioceptors and esteroceptors), 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. Telencephalon: 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. Microscopic structures underlying the functioning of the nervous system: sensory receptors ( proprioceptors and esteroceptors), 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. Telencephalon: 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.

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### Textbooks

Gray's Anatomy (40th edition ) ISBN: 978-0-443-06684-9;  
SUPPLEMENTARY TEXT (For Neuroanatomy): Clinical Neuroanatomy (R. Snell, latest edition) ISBN-10:  
0781794277 | ISBN-13: 978-0781794275;  
ATLAS: Netter (latest edition) ISBN: 978-1-4160-5951-6.

### EXAM METHOD

Oral exams, eventual practical tests.

### EXAM COMMISSION

<b>Susanna Dolci (President)</b>	
<b>Pellegrino Rossi</b>	
<b>Claudio Sette</b>	



### Tutor

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