



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Biomedicina, Neuroscienze e Diagnostica avanzata		
ACADEMIC YEAR	2020/2021		
MASTER'S DEGREE (MSC)	MEDICINE AND SURGERY		
INTEGRATED COURSE	HUMAN ANATOMY II - INTEGRATED COURSE		
CODE	17445		
MODULES	Yes		
NUMBER OF MODULES	2		
SCIENTIFIC SECTOR(S)	BIO/16		
HEAD PROFESSOR(S)	CAPPELLO FRANCESCO	Professore Ordinario	Univ. di PALERMO
	BUCCHIERI FABIO	Professore Ordinario	Univ. di PALERMO
OTHER PROFESSOR(S)	CAPPELLO FRANCESCO	Professore Ordinario	Univ. di PALERMO
	PITRUZZELLA ALESSANDRO	Ricercatore a tempo determinato	Univ. di PALERMO
	RAPPA FRANCESCA	Professore Associato	Univ. di PALERMO
	CARINI FRANCESCO	Professore Associato	Univ. di PALERMO
	BUCCHIERI FABIO	Professore Ordinario	Univ. di PALERMO
CREDITS	10		
PROPAEDEUTICAL SUBJECTS	04111 - HISTOLOGY AND EMBRYOLOGY 17708 - HUMAN ANATOMY I		
MUTUALIZATION			
YEAR	2		
TERM (SEMESTER)	1° semester		
ATTENDANCE	Mandatory		
EVALUATION	Out of 30		
TEACHER OFFICE HOURS	<p>BUCCHIERI FABIO Monday 08:00 10:00 Si riceve soltanto con prenotazione tramite email Wednesday 08:00 10:00 Si riceve soltanto con prenotazione tramite email</p> <p>CAPPELLO FRANCESCO Monday 10:00 12:00 Plesso di Anatomia Umana ed Istologia, Dipartimento di Biomedicine, Neuroscienze e Diagnostica Avanzata. Wednesday 10:00 12:00 Plesso di Anatomia Umana ed Istologia, Dipartimento di Biomedicine, Neuroscienze e Diagnostica Avanzata.</p> <p>CARINI FRANCESCO Wednesday 12:00 14:00 Plesso di Anatomia e Istologia, Dipartimento di Biomedicina, Neuroscienze e Diagnostica Avanzata. Friday 12:00 14:00 Plesso di Anatomia e Istologia, Dipartimento di Biomedicina, Neuroscienze e Diagnostica Avanzata.</p> <p>PITRUZZELLA ALESSANDRO Monday 11:00 14:00 Dipartimento Bionec, Sezione di Anatomia Umana Normale . Policlinico Via del vespro 129</p> <p>RAPPA FRANCESCA Monday 10:00 12:00 Plesso di Anatomia Umana e Istologia, Via del Vespro 129, Palermo. Si riceve soltanto con prenotazione tramite email Wednesday 10:00 12:00 Plesso di Anatomia Umana e Istologia, Via del Vespro 129, Palermo. Si riceve soltanto con prenotazione tramite email</p>		

DOCENTE: Prof. FABIO BUCCHIERI- Sede *IPPOCRATE*

PREREQUISITES	In order to understand the topics included in this integrated course and reach the teaching objectives, the student must acquire knowledge on the structure and the ultrastructure of cells, tissue organization, and the evolution of the various stages of embryonic and fetal development. Moreover, the student must have a clear anatomical foundation from a systematic, topographic, macroscopic and microscopic point of view, on the composition of the abdomen, pelvis and the organs contained in the neuraxial and abdominopelvic cavities, including the vascular and nerve structures, as well as the main changes set off by aging.
LEARNING OUTCOMES	<p>Knowledge and understanding: Acquisition of knowledge on the skull, abdominal and pelvic regions; understanding of the position and relations of the organs contained in the neuraxial and abdominopelvic cavities ; discerning the structural and ultrastructural characteristics of the organs and systems under study. Understanding organogenesis and changes determined by aging.</p> <p>Capacity to apply knowledge and understanding: Capacity to independently identify the location, profile and relation of the organs under study with both traditional and more recently introduced image analysis techniques. Ability to examine and diagnose organs through the study of their microscopic structure.</p> <p>Independent analytic ability: Ability to evaluate the implications and consequences of structural changes within the organs and anatomical regions under study.</p> <p>Communication ability: Ability to describe and comment on the results of topographic and systematic studies, and to interact with colleagues.</p> <p>Learning capacity: Capacity to keep up to date through consultation of scientific publications in the appropriate field using internet. Capacity to complete medical studies using the knowledge acquired during this course.</p>
ASSESSMENT METHODS	<p>Oral examination, aimed to ascertaining the acquisition of competence and knowledge on the module topics. Evaluation is expressed through a 30-point grading scale. The candidate will be asked a minimum of two questions, the first one on a wider subject, in order to verify the knowledge acquired, analytic skills, and possession of adequate expressive ability. However, in case of significant incompetency on fundamental topics by the examinee, the exam can be interrupted even after a single question.</p> <p>Grade: 30 - 30 Cum Laude Rating: EXCELLENT(ECTS grade A-A+ excellent) Outcome: excellent knowledge of the module content; the student shows outstanding analytic and synthetic abilities and is able to apply the acquired knowledge to solve extremely complex problems.</p> <p>Grade: 27 - 29 Rating: VERY GOOD (ECTS grade B very good) Outcome: very good knowledge of the module content and terminology; the student displays clear analytic and synthetic abilities and is able to apply the acquired knowledge to solve intermediate complex problems and, in certain cases, highly complex ones.</p> <p>Grade: 24 – 26 (ECTS grade C Good) Rating: GOOD Outcome: good knowledge of the module content and terminology; the student is able to apply the acquired knowledge to solve intermediate complex problems.</p> <p>Grade: 21 – 23 (ECTS grade D satisfactory) Rating: SATISFACTORY Outcome: satisfactory knowledge of the module content, in certain cases limited to the main topics; the student shows an acceptable degree of ability for using appropriate terminology and for independent application of the acquired knowledge.</p> <p>Grade: 18 – 20 (ECTS grade E sufficient) Rating: SUFFICIENT Outcome: minimal knowledge of the module content, often limited to the main topics; the student shows a moderate degree of ability for using appropriate terminology and for independent application of the acquired knowledge.</p> <p>Grade: 1- 17 Rating: INSUFFICIENT (EXAM FAILED) (ECTS grade F Fail) Outcome: the student does not possess an acceptable degree of knowledge on the main topics of the module; he/she shows very little or no ability for using appropriate terminology and for independent application of the acquired knowledge.</p>
TEACHING METHODS	Lectures

<p>PREREQUISITES</p>	<p>In order to understand the topics included in this module and reach the teaching objectives, the student must acquire knowledge on the structure and the ultrastructure of cells, tissue organization, and the evolution of the various stages of embryonic and fetal development. Moreover, the student must have a clear anatomical foundation from a systematic, topographic, macroscopic and microscopic point of view, on the composition of the chest walls, neck and limbs, including the vascular and nerve structures, as well as the main changes set off by aging.</p>
<p>LEARNING OUTCOMES</p>	<p>Knowledge and understanding: Acquisition of knowledge on the skull, abdominal and pelvic regions; understanding of the position and relations of the organs contained in the neuraxial and abdominopelvic cavities ; discerning the structural and ultrastructural characteristics of the organs and systems under study. Understanding organogenesis and changes determined by aging. Capacity to apply knowledge and understanding: Capacity to independently identify the location, profile and relation of the organs under study with both traditional and more recently introduced image analysis techniques. Ability to examine and diagnose organs through the study of their microscopic structure. Independent analytic ability: Ability to evaluate the implications and consequences of structural changes within the organs and anatomical regions under study. Communication ability: Ability to describe and comment on the results of topographic and systematic studies, and to interact with colleagues. Learning capacity: Capacity to keep up to date through consultation of scientific publications in the appropriate field using internet. Capacity to complete medical studies using the knowledge acquired during this course.</p>
<p>ASSESSMENT METHODS</p>	<p>Oral examination, aimed to ascertaining the acquisition of competence and knowledge on the module topics. Evaluation is expressed through a 30-point grading scale. The candidate will be asked a minimum of two questions, the first one on a wider subject, in order to verify the knowledge acquired, analytic skills, and possession of adequate expressive ability. However, in case of significant incompetency on fundamental topics by the examinee, the exam can be interrupted even after a single question. Grade: 30 - 30 Cum Laude Rating: EXCELLENT(ECTS grade A-A+ excellent) Outcome: excellent knowledge of the module content; the student shows outstanding analytic and synthetic abilities and is able to apply the acquired knowledge to solve extremely complex problems. Grade: 27 – 29 Rating: VERY GOOD (ECTS grade B very good) Outcome: very good knowledge of the module content and terminology; the student displays clear analytic and synthetic abilities and is able to apply the acquired knowledge to solve intermediate complex problems and, in certain cases, highly complex ones. Grade: 24 – 26 (ECTS grade C Good) Rating: GOOD Outcome: good knowledge of the module content and terminology; the student is able to apply the acquired knowledge to solve intermediate complex problems. Grade: 21 – 23 (ECTS grade D satisfactory) Rating: SATISFACTORY Outcome: satisfactory knowledge of the module content, in certain cases limited to the main topics; the student shows an acceptable degree of ability for using appropriate terminology and for independent application of the acquired knowledge. Grade: 18 – 20 (ECTS grade E sufficient) Rating: SUFFICIENT Outcome: minimal knowledge of the module content, often limited to the main topics; the student shows a moderate degree of ability for using appropriate terminology and for independent application of the acquired knowledge. Grade: 1- 17 Rating: INSUFFICIENT (EXAM FAILED) (ECTS grade F Fail) Outcome: the student does not possess an acceptable degree of knowledge on the main topics of the module; he/she shows very little or no ability for using appropriate terminology and for independent application of the acquired knowledge.</p>
<p>TEACHING METHODS</p>	<p>Lectures</p>

**MODULE
HUMAN ANATOMY II - MODULE II**

Prof. ALESSANDRO PITRUZZELLA - Sede HYPATIA, - Sede HYPATIA

SUGGESTED BIBLIOGRAPHY

Anatomia del Gray – Le basi anatomiche della pratica clinica – Elsevier 2009; Testo Atlante di Anatomia – Prometheus - E. Gaudio (a cura di)– EdiSES seconda edizione; Martini F.H., Timmonds M.J., Tallitsch R.B.: Anatomia Umana - EdiSES Quinta Edizione– 2012; Anatomia dell'apparato locomotore - Farina F. (a cura di) – Elsevier.

AMBIT	50424-Morfologia umana
INDIVIDUAL STUDY (Hrs)	75
COURSE ACTIVITY (Hrs)	50

EDUCATIONAL OBJECTIVES OF THE MODULE

The overall objective of the module is to provide the student with anatomical foundation on the characteristics of the abdominopelvic cavity from an organogenetic, systematic and topographic point of view, both macroscopic and microscopic knowledge on the digestive, urinary and reproductive (both male and female) systems, as well as on the main changes related to aging. The specific objective is to achieve a good understanding of the organizational levels the digestive, urinary and reproductive (both male and female) systems, with particular emphasis on the relationships between the walls of the cavities and the viscera within, and on the functional aspects of the morphological knowledge. The main objective is to acquire analytical pathophysiological and clinical-diagnostic abilities in the specific fields of this module, also through the use of the methodological tools of evidence-based medicine.

SYLLABUS

Hrs	Frontal teaching
3	Splanchnocranium
2	Upper airways
2	Oral cavity
2	Structural organization and organogenesis of the digestive tract
3	Walls of the abdominal cavity
3	Walls of the pelvic cavity and perineum
3	Regionalization of the abdominal cavity and peritoneum
5	Liver
3	Stomach
1	Spleen
1	Duodenum
1	Extrahepatic biliary system
1	Pancreas
3	Mesentery of the small intestine
3	Large intestine
1	Retroperitoneal space
3	Kidneys
2	Urinary tract
1	Adrenal glands
3	Male reproductive system
4	Female reproductive system

**MODULE
HUMAN ANATOMY II - MODULE I**

Prof. FABIO BUCCHIERI - Sede IPPOCRATE, - Sede IPPOCRATE

SUGGESTED BIBLIOGRAPHY

Anatomia del Gray – Le basi anatomiche della pratica clinica – Elsevier 2009;
 Testo Atlante di Anatomia – Prometheus - E. Gaudio (a cura di)– EdiSES seconda edizione;
 John Kiernan, Nagalingam rajakumar-Barr's: Il sistema nervoso dell'uomo - Basi di Neuroanatomia. EdiSES.

AMBIT	50424-Morfologia umana
INDIVIDUAL STUDY (Hrs)	75
COURSE ACTIVITY (Hrs)	50

EDUCATIONAL OBJECTIVES OF THE MODULE

The overall objective of the module is to provide the student with the fundamental anatomical, organogenetic, systematic, topographic, macroscopical and structural knowledge on the nervous system, as well as on the neurocranium and special sense organs.

The specific objective is for the student to achieve a good understanding of the organizational levels of the nervous system and its morphological and functional aspects.

The main objective is for the student to be able to correlate the main morphological and functional modifications of the nervous system with the neurological diseases.

SYLLABUS

Hrs	Frontal teaching
2	Introduction to Neuroanatomy. Organogenesis of the central nervous system
5	Spinal cord : Location, Internal and external configuration. Gray and white matter structure and organization. Spinal reflexes.
2	Spinal nerves
1	Spinal meninges
4	Neurocranium and encephalic meninges
5	Brainstem: outer and inner aspect of the medulla oblongata, pons and mesencephalon. Gray matter organization: proper nuclei and nuclei of cranial nerves. Reticular formation. Fourth ventricle and cerebral aqueduct. Choroid plexuses and cerebrospinal fluid.
2	Cerebellum: outer and inner aspect. Functional and phylogenetic classification. Cerebellar cortex. structure and architecture
2	Diencephalon: external and internal structure. Thalamus, hypothalamus, epithalamus and subthalamus.
3	Telencephalon: external aspect. Cerebral cortex, white matter and basal ganglia. Limbic system. Lateral ventricles.
2	Blood vessels of the spinal cord, brainstem, cerebellum and brain: vertebral arteries and internal carotid arteries . Cerebral arteries. Dural sinuses.
6	Sensory system: types of information and receptors. Tracts of the posterior funiculus. Spinothalamic tracts. Sensory cortex. Spinocerebellar tracts. Sensory cranial nerves.
3	Taste pathways. Inner ear, auditory pathway, vestibular system.
2	Orbital cavity, eye and ocular adnexa
3	Visual and olfactory pathways
4	Motor system: pyramidal tract and extrapyramidal motor system. Motor cranial nerves
4	Sympathetic and parasympathetic nervous system.

**MODULE
HUMAN ANATOMY II - MODULE I**

Prof. FRANCESCO CAPPELLO - Sede CHIRONE, - Sede CHIRONE

SUGGESTED BIBLIOGRAPHY

Anatomia del Gray-Le basi anatomiche della pratica clinica. Elsevier 2009;
Testo atlante di Anatomia Prometheus-E. Gaudio (a cura di). EdiSES seconda edizione;
John A. Kiernan, Nagalingam Rajakumar-Barr's: Il sistema nervoso dell'uomo-Basi di Neuroanatomia. EdiSES.

AMBIT	50424-Morfologia umana
INDIVIDUAL STUDY (Hrs)	75
COURSE ACTIVITY (Hrs)	50

EDUCATIONAL OBJECTIVES OF THE MODULE

The overall objective of the module is to provide the student with the fundamental anatomical, organogenetic, systematic, topographic, macroscopical and structural knowledge on the nervous system, as well as on the neurocranium and special sense organs.

The specific objective is for the student to achieve a good understanding of the organizational levels of the nervous system and its morphological and functional aspects.

The main objective is for the student to be able to correlate the main morphological and functional modifications of the nervous system with the neurological diseases.

SYLLABUS

Hrs	Frontal teaching
2	Introduction to Neuroanatomy. Development of the nervous system.
5	Spinal cord: position, outer and inner aspect. Gray matter and white matter organization. Spinal reflexes.
2	Spinal nerves
1	Spinal meninges
4	Neurocranium and encephalic meninges.
5	Brainstem: outer and inner aspect of the medulla oblongata, pons and mesencephalon. Gray matter organization: proper nuclei and nuclei of cranial nerves. Reticular formation. Fourth ventricle and cerebral aqueduct. Choroid plexuses and cerebrospinal fluid.
2	Cerebellum: outer and inner aspect. Functional and phylogenetic classification. Cerebellar cortex. structure and architecture.
2	Diencephalon: external and internal structure. Thalamus, hypothalamus, epithalamus and subthalamus.
3	Telencephalon: external aspect. Cerebral cortex, white matter and basal ganglia. Limbic system. Lateral ventricles.
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3	Taste pathway. Inner ear, auditory pathway, vestibular system.
2	Eye and orbit.
3	Visual pathways. Olfactory pathways.
4	Motor system: piramidal tract and extrapiramidal motor system. Motor cranial nerves.
4	Sympathetic and parasympathetic nervous system.

**MODULE
HUMAN ANATOMY II - MODULE I**

Prof. FRANCESCO CAPPELLO - Sede HYPATIA, - Sede HYPATIA

SUGGESTED BIBLIOGRAPHY

Anatomia del Gray-Le basi anatomiche della pratica clinica. Elsevier 2009;
Testo atlante di Anatomia Prometheus-E. Gaudio (a cura di). EdiSES seconda edizione;
John A. Kiernan, Nagalingam Rajakumar-Barr's: Il sistema nervoso dell'uomo-Basi di Neuroanatomia. EdiSES.

AMBIT	50424-Morfologia umana
INDIVIDUAL STUDY (Hrs)	75
COURSE ACTIVITY (Hrs)	50

EDUCATIONAL OBJECTIVES OF THE MODULE

The overall objective of the module is to provide the student with the fundamental anatomical, organogenetic, systematic, topographic, macroscopical and structural knowledge on the nervous system, as well as on the neurocranium and special sense organs.

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The main objective is for the student to be able to correlate the main morphological and functional modifications of the nervous system with the neurological diseases.

SYLLABUS

Hrs	Frontal teaching
2	Introduction to Neuroanatomy. Development of the nervous system.
5	Spinal cord: position, outer and inner aspect. Gray matter and white matter organization. Spinal reflexes.
2	Spinal nerves
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3	Taste pathway. Inner ear, auditory pathway, vestibular system.
2	Eye and orbit.
3	Visual pathways. Olfactory pathways.
4	Motor system: piramidal tract and extrapiramidal motor system. Motor cranial nerves.
4	Sympathetic and parasympathetic nervous system.

**MODULE
HUMAN ANATOMY II - MODULE II**

Prof. FRANCESCO CARINI - Sede IPPOCRATE, - Sede IPPOCRATE

SUGGESTED BIBLIOGRAPHY

Anatomia del Gray – Le basi anatomiche della pratica clinica – Elsevier 2009;
 Testo Atlante di Anatomia – Prometheus - E. Gaudio (a cura di)– EdiSES seconda edizione; Martini F.H., Timmonds M.J., Tallitsch R.B.: Anatomia Umana - EdiSES Quinta Edizione– 2012;
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AMBIT	50424-Morfologia umana
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INDIVIDUAL STUDY (Hrs)	75
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COURSE ACTIVITY (Hrs)	50
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EDUCATIONAL OBJECTIVES OF THE MODULE

The overall objective of the module is to provide the student with anatomical foundation on the characteristics of the abdominopelvic cavity from an organogenetic, systematic and topographic point of view, both macroscopic and microscopic knowledge on the digestive, urinary and reproductive (both male and female) systems, as well as on the main changes related to aging.

The specific objective is to achieve a good understanding of the organizational levels the digestive, urinary and reproductive (both male and female) systems, with particular emphasis on the relationships between the walls of the cavities and the viscera within, and on the functional aspects of the morphological knowledge.

The main objective is to acquire analytical pathophysiological and clinical-diagnostic abilities in the specific fields of this module, also through the use of the methodological tools of evidence-based medicine.

SYLLABUS

Hrs	Frontal teaching
2	Upper airways
2	Oral cavity
2	Structural organization and organogenesis of the digestive tract
3	Walls of the abdominal cavity
3	Walls of the pelvic cavity and perineum
3	Regionalization of the abdominal cavity and peritoneum
5	Liver
3	Stomach
1	Spleen
1	Duodenum
1	Extrahepatic biliary system
1	Pancreas
3	Mesentery of the small intestine
3	Large intestine
1	Retroperitoneal space
3	Kidneys
2	Urinary tract
1	Adrenal glands
3	Male reproductive system
4	Female reproductive system
3	Splanchnocranium

**MODULE
HUMAN ANATOMY II - MODULE II**

Prof.ssa FRANCESCA RAPPA - Sede CHIRONE, - Sede CHIRONE

SUGGESTED BIBLIOGRAPHY

Anatomia del Gray – Le basi anatomiche della pratica clinica – Elsevier 2009;
 Testo Atlante di Anatomia – Prometheus - E. Gaudio (a cura di)– EdiSES seconda edizione; Martini F.H., Timmonds M.J., Tallitsch R.B.: Anatomia Umana - EdiSES Quinta Edizione– 2012;
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The overall objective of the module is to provide the student with anatomical foundation on the characteristics of the abdominopelvic cavity from an organogenetic, systematic and topographic point of view, both macroscopic and microscopic knowledge on the digestive, urinary and reproductive (both male and female) systems, as well as on the main changes related to aging.

The specific objective is to achieve a good understanding of the organizational levels the digestive, urinary and reproductive (both male and female) systems, with particular emphasis on the relationships between the walls of the cavities and the viscera within, and on the functional aspects of the morphological knowledge.

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SYLLABUS

Hrs	Frontal teaching
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2	Upper airways
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3	Walls of the pelvic cavity and perineum
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5	Liver
3	Stomach
1	Spleen
1	Duodenum
1	Extrahepatic biliary system
1	Pancreas
3	Mesentery of the small intestine
3	Large intestine
1	Retroperitoneal space
3	Kidneys
2	Urinary tract
1	Adrenal glands
3	Male reproductive system
4	Female reproductive system