Information about the course

Degree: Bachelor of Science Degree in Medicine

Faculty: Faculty of Medicine and Health Sciences

Code: 341201 **Name:** Anatomy II

Credits: 9,00 ECTS **Year:** 2 **Semester:** 1

Module: Morphology, structure and function of the human body

Subject Matter: Anatomía **Type:** Formación Básica

Branch of knowledge: Ciencias de la Salud

Department: Anatomy and Physiology

Type of learning: Classroom-based learning

Language/-s in which it is given: Spanish

Teachers:

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Module organization

Morphology, structure and function of the human body

Subject Matter	ECTS	Subject	ECTS	Year/semester
Anatomía	27	Anatomy II	9	2/1
		Anatomy III	6	2/2
		Embryology and Anatomy I	12	1/2
Biología	6	Cell Biology	6	1/1
Bioquímica	9	Biochemistry and Molecular Biology	9	1/2
Física	6	Biophysics	6	1/2
Fisología	12	Human Physiology I	6	2/1
		Human Physiology II	6	2/2
Morfología y estructura microscópica del cuerpo humano	6	Histology	6	2/1

Recommended knowledge

Basic and elementary knowledge of the anatomy and physiology of the human body acquired during general secondary education. Notions of embryology acquired in the first year of the module to which this subject belongs

Learning outcomes

Al finalizar la asignatura, el estudiante deberá demostrar haber adquirido los siguientes resultados de aprendizaje:

R1 - Embryonic development and organogenesis.

Learning outcomes of the specified title

Type of AR: Description

- Recognizing with macroscopic, microscopic and imaging techniques the morphology and structure of tissue, organs and systems

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Developing professional practice with respect for other health professionals, acquiring teamwork skills

- Students can pass on information, ideas, problems and solutions to both a specialized and non-specialized audience

- Students have demonstrated to possess and understand knowledge in a study area that starts from the base of the general secondary education, and is usually found at a level that, while supported by advanced textbooks, also includes some aspects that involve knowledge from the forefront of their field of study

- Students have developed the learning skills needed to undertake further studies with a high degree of autonomy

- Students have the ability to collect and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical topics

- Students know how to apply their knowledge to their job or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

R11 - Search for bibliographic information from different sources and know how to use it in a critical and constructive way

Learning outcomes of the specified title

Type of AR: Description

- Knowing the basic principles of human nutrition. Cellular communication. Excitable membranes. Cell cycle. Cell differentiation and proliferation. Gene information, expression and regulation. Inheritance. Embryonic development and organogenesis

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Students have the ability to collect and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical topics

- Students know how to apply their knowledge to their job or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

- Understanding and recognizing the effects of growth, development and aging on the individual and their social environment

R12 - Apply general knowledge of anatomy in cadaveric dissection and in working with bone remains

Learning outcomes of the specified title

Type of AR: Description

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Understanding and recognizing the effects of growth, development and aging on the individual and their social environment

R13 - Use dissection instrumentation in practical work, acquiring the ability to handle surgical material

Learning outcomes of the specified title

Type of AR: Description

- Knowing the basic principles of human nutrition. Cellular communication. Excitable membranes. Cell cycle. Cell differentiation and proliferation. Gene information, expression and regulation. Inheritance. Embryonic development and organogenesis

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Students know how to apply their knowledge to their job or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

- Understanding and recognizing the effects of growth, development and aging on the individual and their social environment

R14 - Know the main concepts that integrate anatomical terminology, its fundamentals and clinical and surgical utility

Learning outcomes of the specified title

Type of AR: Description

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Students know how to apply their knowledge to their job or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

- Understanding and recognizing the effects of growth, development and aging on the individual and their social environment

R15 - Know thoraco-abdominal topography and distinguish the different anatomical structures of the chest and abdomen by framing them in the different regions

Learning outcomes of the specified title

Type of AR: Description

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Understanding and recognizing the effects of growth, development and aging on the individual and their social environment

R16 - Know the external and internal morphology of each intrathracic and abdomino-pelvic organ and the anatomical relationships between them

Learning outcomes of the specified title

Type of AR: Description

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Students know how to apply their knowledge to their job or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

- Understanding and recognizing the effects of growth, development and aging on the individual and their social environment

R17 - Using dissection instrumentation in practical work

Learning outcomes of the specified title

Type of AR: Description

- Recognizing with macroscopic, microscopic and imaging techniques the morphology and structure of tissue, organs and systems

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Developing professional practice with respect for other health professionals, acquiring teamwork skills

- Understanding and recognizing the effects of growth, development and aging on the individual and their social environment

R18 - Apply general knowledge of Anatomy

Learning outcomes of the specified title

Type of AR: Description

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Understanding and recognizing the effects of growth, development and aging on the individual and their social environment

R20 - Know thoraco-abdominal topography and distinguish the different anatomical structures of the chest and abdomen by framing them in the different regions

Learning outcomes of the specified title

Type of AR: Description

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Students know how to apply their knowledge to their job or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

- Understanding and recognizing the effects of growth, development and aging on the individual and their social environment

R21 - Know the external and internal morphology of each intrathracic and abdomino-pelvic organ and the anatomical relationships between them

Learning outcomes of the specified title

Type of AR: Description

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Students know how to apply their knowledge to their job or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

- Understanding and recognizing the effects of growth, development and aging on the individual and their social environment

R24 - Use different work techniques in the anatomy lab

Learning outcomes of the specified title

Type of AR: Description

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Students know how to apply their knowledge to their job or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

- Understanding and recognizing the effects of growth, development and aging on the individual and their social environment

R28 - Seek bibliographic information from different sources and know how to analyze it in a critical and constructive spirit.

Learning outcomes of the specified title

Type of AR: Description

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Students have developed the learning skills needed to undertake further studies with a high degree of autonomy

- Students know how to apply their knowledge to their job or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

- Understanding and recognizing the effects of growth, development and aging on the individual and their social environment

R29 - Be able to produce documents on anatomy and work as a team.

Learning outcomes of the specified title

Type of AR: Description

- Students have demonstrated to possess and understand knowledge in a study area that starts from the base of the general secondary education, and is usually found at a level that, while supported by advanced textbooks, also includes some aspects that involve knowledge from the forefront of their field of study

- Students have developed the learning skills needed to undertake further studies with a high degree of autonomy

- Students know how to apply their knowledge to their job or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

R30 - Argument with rational criteria from his work.

Learning outcomes of the specified title

Type of AR: Description

- Knowing the basic principles of human nutrition. Cellular communication. Excitable membranes. Cell cycle. Cell differentiation and proliferation. Gene information, expression and regulation. Inheritance. Embryonic development and organogenesis

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Students can pass on information, ideas, problems and solutions to both a specialized and non-specialized audience

- Students have demonstrated to possess and understand knowledge in a study area that starts from the base of the general secondary education, and is usually found at a level that, while supported by advanced textbooks, also includes some aspects that involve knowledge from the forefront of their field of study

- Students have the ability to collect and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical topics

- Students know how to apply their knowledge to their job or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

- Understanding and recognizing the effects of growth, development and aging on the individual and their social environment

R31 - Being able to write an understandable and organized text on various aspects of descriptive and functional neuroanatomy.

Learning outcomes of the specified title

Type of AR: Description

- Knowing the basic principles of human nutrition. Cellular communication. Excitable membranes. Cell cycle. Cell differentiation and proliferation. Gene information, expression and regulation. Inheritance. Embryonic development and organogenesis

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Students have demonstrated to possess and understand knowledge in a study area that starts from the base of the general secondary education, and is usually found at a level that, while supported by advanced textbooks, also includes some aspects that involve knowledge from the forefront of their field of study

- Students have developed the learning skills needed to undertake further studies with a high degree of autonomy

- Students know how to apply their knowledge to their job or vocation in a professional way and possess the competences that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study

- Understanding and recognizing the effects of growth, development and aging on the individual and their social environment

R8 - Know the main events of embryogenesis and fundamental events in the genesis of the various systems and structures to better understand the adult organization of the human body.

Learning outcomes of the specified title

Type of AR: Description

- Knowing the morphology, structure and function of the skin, blood, circulatory, digestive, locomotive, reproductive, excretor and respiratory systems; endocrine system, immune system and central and peripheral nervous system. Growth, maturation and aging of different devices and systems. Homeostasis. Adaptation to the environment

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Type of AR: Description

- Understanding and recognizing the effects of growth, development and aging on the individual and their social environment

R9 - Know the main concepts that integrate anatomical terminology, its fundamentals and clinical and surgical utility

Learning outcomes of the specified title

Type of AR: Description

- Knowing the morphology, structure and function of the skin, blood, circulatory, digestive, locomotive, reproductive, excretor and respiratory systems; endocrine system, immune system and central and peripheral nervous system. Growth, maturation and aging of different devices and systems. Homeostasis. Adaptation to the environment

- Recognizing with macroscopic, microscopic and imaging techniques the morphology and structure of tissue, organs and systems

- Understanding and recognizing the normal structure and function of the human body, at the molecular, cellular, tissue, organic and systems levels, at the different stages of life and in both sexes

Assessment system

Modalidad presencial

Assessed learning outcomes	Granted percentage	Assessment tool
R1, R8, R9, R14, R15, R16, R18, R20, R21	70,00%	Tests
R8, R9, R13, R14, R15, R16, R17, R18, R20, R21	5,00%	Practices
	0,00%	Work
	0,00%	Participation in class
R8, R9, R12, R13, R14, R15, R16, R17, R18, R20, R21	25,00%	Practice exam

Observations

THEORETICAL EXAM

The multiple-choice exam is a multiple-choice test with 60 questions, with only one correct answer out of four possible. Each valid answer will be weighted with three points. One point will be subtracted for each incorrect answer. Unanswered questions will not be weighted. The above calculations will give each participant's score. The maximum score that can be obtained is 6 out of the total score.

The short-answer exam is a test with 10 short-answer questions. The maximum total score that can be obtained is 1 out of the total score.
PRACTICAL EXAM
The student takes a test in which they must demonstrate, through practical application, the acquisition of certain knowledge.

The written theoretical test will be conducted, in which, out of a maximum score of 7, the student must obtain at least a score of 3.5 to pass the subject.
A practical test will also be administered, in which the student must achieve a minimum score of 1.25 out of a maximum of 2.5 to be considered as having acquired the desired skills.
If the student fails or does not pass one of the two tests (practical or theoretical), the grade obtained in any of the tests passed will be respected only until the second call.
Both the assessment instruments and the percentage awarded for them will be independent; the student must pass each of them to be considered as having acquired the expected skills.

This course does not offer a single assessment, as it requires mandatory practical activities with active student participation.

USE OF AI
Students may use AI for personal study of the subject. Students may not use AI to complete assessable tasks, unless required for a specific activity and the instructor so indicates. If AI is used in any of the activities, the specific area of the activity where it was used, which AI tool was used, and for what purpose must be stated.

CRITERIA FOR AWARDING A MATRÍCULA DE HONOR: According to article 22 of the Regulations Governing the Evaluation and Grading of Subjects at the UCV, the mention of "Matrícula de Honor" may be awarded by the professor responsible for the subject to students who have obtained the grade of "Outstanding". The number of "Matrícula de Honor" mentions that may be awarded may not exceed five percent of the students included in the same official record , unless this is less than 20, in which case only one "Matrícula de Honor" may be awarded.

MENTION OF DISTINCTION:
In accordance with the regulations governing the assessment and grading of subjects in force at UCV, the distinction of "Matrícula de Honor" (Honours with Distinction) may be awarded to students who have achieved a grade of 9.0 or higher. The number of "Matrículas de Honor" (Honours with Distinction) may not exceed five percent of the students enrolled in the group for the corresponding academic year, unless the number of enrolled students is fewer than 20, in which case a single "Matrícula de Honor" (Honours with Distinction) may be awarded. Exceptionally, these distinctions may be assigned globally across different groups of the same subject. Nevertheless, the total number of distinctions awarded will be the same as if they were assigned by group, but they may be distributed among all students based on a common criterion, regardless of the group to which they belong. The criteria for awarding "Matrícula de Honor" (Honours with Distinction) will be determined according to the guidelines stipulated by the professor responsible for the course, as detailed in the "Observations" section of the evaluation system in the course guide.

Actividades formativas

The methodologies to be used so that the students reach the expected learning outcomes will be the following:

M1	Masterclass
M4	Content presentations by teacher
M5	Knowledges and skills explanation
M8	Group activities supervised by professor
M9	Knowledge acquirance through student interaction and activity
M10	Anatomy dissection practices
M11	Personalised attention by professor
M12	Tests to understand the level of knowledge acquirance and skills
M14	Online activity on e-learning
M15	Personal study

M19 Group work for searching, discussion and information research

IN-CLASS TRAINING ACTIVITIES

ACTVITY	RELATIONSHIP WITH THE COURSE LEARNING OUTCOMES	METHODOLOGY	HOURS	ECTS
Theory class	R15, R16, R18, R20, R21	Masterclass Content presentations by teacher Knowledges and skills explanation Knowledge acquirance through student interaction and activity Online activity on e-learning Personal study	74,00	2,96
Practices in small groups	R9, R12, R13, R14, R15, R16, R17, R18, R20, R21, R24, R29	Content presentations by teacher Knowledges and skills explanation Group activities supervised by professor Anatomy dissection practices	20,00	0,80
Tutoring	R15, R16, R18, R20, R21	Knowledges and skills explanation Personalised attention by professor Personal study	2,00	0,08

Evaluation	R15, R16, R18, R20, R21, R29	Tests to understand the level of knowledge acquirance and skills Personal study Group work for searching, discussion and information research	2,00	0,08
TOTAL			**98,00**	**3,92**

TRAINING ACTIVITIES OF AUTONOMOUS WORK

ACTVITY	RELATIONSHIP WITH THE COURSE LEARNING OUTCOMES	METHODOLOGY	HOURS	ECTS
No attendance	R15, R16, R18, R20, R21	Online activity on e-learning Personal study Group work for searching, discussion and information research	127,00	5,08
TOTAL			**127,00**	**5,08**

Description of contents

Descripción de contenidos necesarios para la adquisición de los resultados de aprendizaje.

Theoretical content:

Block of content	Contents
BLOCK I: Thoracic splanchnology	TOPIC 0: Introduction to the anatomy of the thorax: objective,systematics and study materialTOPIC 1: Heart I. Introduction. Shape. Location.Relationships. PericardiumTOPIC 2: Heart II. Walls. Cavities. ValvesTOPIC 3: Heart III. Vascularization and innervation. Conduction systemTOPIC 4: Large vessels. Large arterial trunks. Ascending aorta and pulmonary arteryTOPIC 5: Aortic arch. Supra-aortic trunksTOPIC 6: Carotid systemTOPIC 7: Subclavian systemTOPIC 8: Descending thoracic aortaTOPIC 9: Venous systemTOPIC 10: Lymphatic systemTOPIC 11: Respiratory system. PharynxTOPIC 12: Respiratory system. LarynxTOPIC 13: Respiratory system. Trachea and bronchial treeTOPIC 14: Respiratory system. Lungs. PleuraeTOPIC 15: Superficial anatomy. Auscultation foci.Thoracic wallTOPIC 16: ThyroidTOPIC 17: Thymus. Esophagus

BLOCK II: Abdominal, pelvic and retroperitoneal splanchnology	TOPIC 1.- Introduction to abdominal anatomy: Objectives, systematics and study material.TOPIC 2.- Embryology. Abdominal topography. Walls of the abdomen. Peritoneum.TOPIC 3.- Splanchnic Autonomic Nervous System.Sympathetic and Parasympathetic.TOPIC 4.- Celiac viscera I. Esophagus. Stomach.TOPIC 5.- Celiac viscera II. Duodenum-pancreasTOPIC 6.- Celiac viscera III. Spleen.TOPIC 7.- Celiac viscera IV. Liver and bile ducts.TOPIC 8.- Small intestine: Jejunum and Ileum.TOPIC 9.- Large intestine: Colon.TOPIC 10.- Large intestine: Rectum. Anal Canal.TOPIC 11.- Introduction to the retroperitoneum. Retroperitoneal spaces.TOPIC 12.- Central retroperitoneum: Aorta. Cava. Lymphatic duct. Solar plexus.TOPIC 13.- Adrenal glands.TOPIC 14.- Kidney and ureter.TOPIC 15.- Introduction to the pelvic cavity. Limits,musculature, angiology, innervation. Pelvic-perineal spaces. Perineum.TOPIC 16.- Bladder and Urethra.TOPIC 17.- Male Genital System. Testicle and spermaticducts.TOPIC 18.- Male Genital System. Prostate, seminal vesicles, bulborethral glands.TOPIC 19.- Male Genital System. External genital organs.TOPIC 20.- Female Genital System. Ovary, tubes and uterus.TOPIC 21.- Female Genital System. Vagina and external genitals.TOPIC 22.- Mammary Gland
Block III: Practice	Thoracic and abdominal splanchnology practices in the dissection room

Temporary organization of learning:

Block of content	Sessions	Hours
BLOCK I: Thoracic splanchnology	17	34,00
BLOCK II: Abdominal, pelvic and retroperitoneal splanchnology	22	44,00
Block III: Practice	10	20,00

References

1. NETTER, F.H. Atlas de Anatomía Humana. Elsevier. Ed 7ª.2019.2. ORTS LLORCA, F. Anatomía Humana. Científico-Médica. 6ed. 1986.3. MOORE. Dalley A; Agur A. "Fundamentos De Anatomía Con Orientación Clínica". Ed. 6ª.Wolters Kluwer. 20194. ROHEN, YOKOCHI. Atlas fotográfico de Anatomía Humana. Ed 8ª. Elsevier.5. ROUVIERE, Delmas. Anatomía Humana. Ed. Masson. Ed. 11ª. 2005.6. PROMETEUS. Texto y atlas de Anatomía. Ed 3ª. Panamericana.7. SOBOTTA – R. Putz, R. Pabst. Atlas De Anatomía Humana. Ed. Médica Panamericana. Ed.24ª. 2018.8. LATARJET- RUIZ LIARD. Anatomía Humana. Ed. Panamericana. Ed 5ª. 2019.9. Drake R, Wayne A, Mitchell A. Gray´s Anatomy for students. Elsevier. Ed 4ª. 2020