UANL
UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN

FACULTAD DE MEDICINA

MODULE DESCRIPTION (ANALYTICAL PROGRAM).

1. Module Information Code:	
• Name of the Institution and School	Universidad Autónoma de Nuevo León, School of Medicine
• Name of the Learning Unit	Human Anatomy
• Total classroom hours for theory and/or practice.	96 hours
• Total extra classroom hours	264 hours
• Course Modality	Schooled
• Type of academic period in which the module is offered	2nd Semester
• Type of Learning Unit in the Curriculum	Compulsory
• Curriculum area:	ACFB
• UANL credit points	12
• Date of module creation:	November 19, 2013
• Date of last amendment:	March 03, 2020
• Person(s) responsible for the module design and amendments:	Dr. med. Santos Guzmán López Dr. C. Rodrigo Elizondo Omaña Dr. Guillermo Jacobo Baca

2. Introduction

The Human Anatomy learning unit starts from the analysis of the study of the human body from a regional point of view and with a clear orientation towards the clinic. The characteristics of organs and tissues, their functions and the consequences of their injury are emphasized, laying the foundations that allow a holistic understanding of the human being as well as the health-disease interrelationship. It is structured in ten stages where the different regions of the human body are analyzed in a clinical context.

3. Purpose(s)

In this learning unit the student establishes morphological diagnoses through the use of basic and superior intellectual skills of clinical reasoning. It contributes to the profile of the graduate as it constitutes the basis for the study of medicine to subsequently solve health problems at the first level

of care. In addition, the student analyzes the basic knowledge needed in the basic training curricular area, and will also base a general panorama, which will deepen in each of the learning units with which it is related transversally as they are: Histology, Embryology, Physiology, Pathology, Clinical Propaedeutics, Imaging, Forensic Medicine, Psychiatry, Pediatrics, Gynecology, Obstetrics; and it bases the learning units related to Internal Medicine and Surgical Sciences.

4. Competences of the graduate profile

a. General competences contributing to this learning unit.

Instrumental skills:

1. Apply autonomous learning strategies in the different levels and fields of knowledge that allow them make appropriate and relevant decisions in the personal, academic and professional fields.

2. Use the logical, formal, mathematical, iconic, verbal and non-verbal languages according to their stage of life, in order to understand, interpret and express ideas, feelings, theories and streams of thinking with an ecumenical focus.

3. Use the information and communication technologies as access tools to information and its transformation in knowledge, as well as for learning and collaborative work with cutting-edge techniques that allow its constructive participation in society.

Personal and social interaction skills

11. Practice the values promoted by the UANL: truth, equality, honesty, liberty, solidarity, respect for life and anyone's, peace, respect for nature, integrity, ethics behavior and justice, within their personal and professional environment in order to make a sustainable society.

Integrative skills

15. Achieve the adaptability required in uncertain professional and social environments of our time to improve living conditions.

b. Specific competences of the graduate profile that contributes to the learning unit

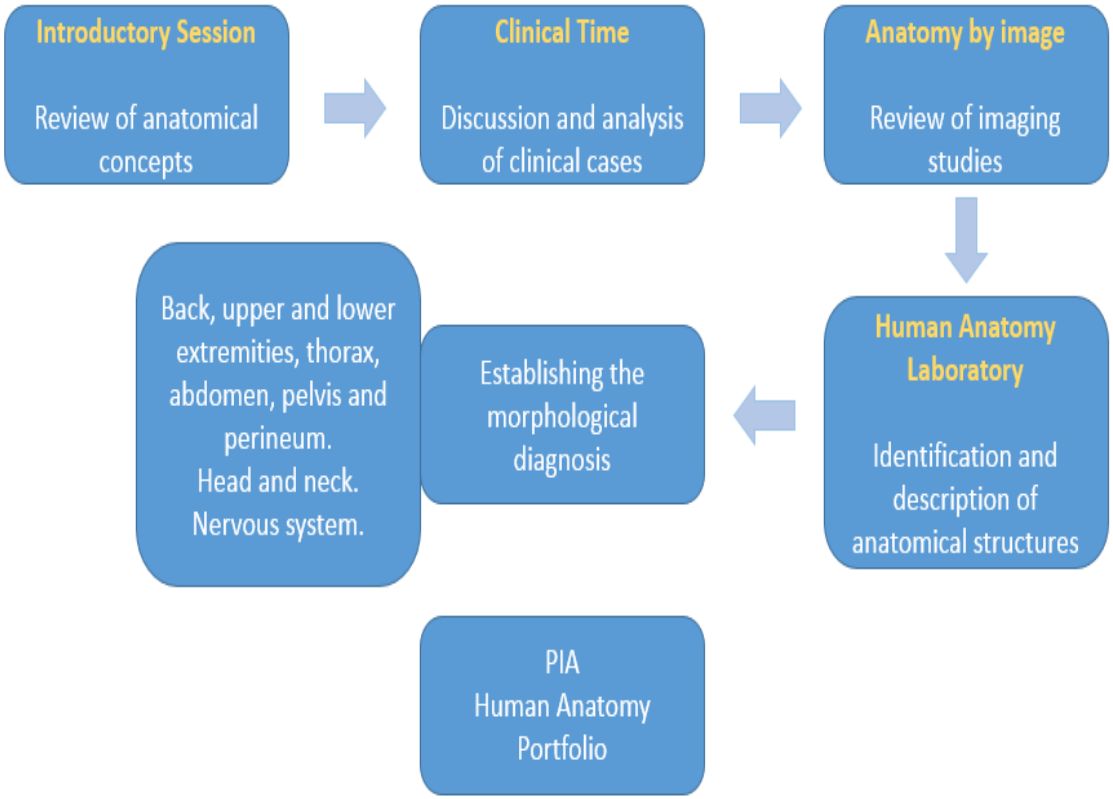
1.- Use the medicine scientific fundaments considering economical, psychological, social, cultural and environmental factors which contribute to the development and evolution of a disease for decision-making and medical actions.

2.- Solves clinical problems through deductive reasoning, interpretation of findings and definition of their nature with the aim of making decisions and determine action principles of the medical practice to follow in a responsible way, impacting individual and collective health.

7.- Applies the scientific method for the resolution of medical problems with an innovative, analytic and self-critical attitude for preventing, diagnosing and treating diseases.

11.- Applies effective communication principles, establishing a respectful and sympathetic relationship with the patient, relatives, the community and other health professionals in order to use the information properly.

5. Course roadmap:



6. Structuring into stages or phases

Stage 1: Introduction to human anatomy

Phase 1:

Component(s) of the competence:

Apply the basic anatomical concepts through the identification, description, comparison and analysis of the components of the systems and regions of the human body with the purpose of supporting the correct morphological diagnosis.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources

Oral presentation on the conceptual content and its corresponding clinical correlation.	• Demonstrates excellent knowledge of the subject.
	• Uses international anatomical terminology correctly.
	• Uses correctly the terms of position, relation and movement of the human body.
	• Correctly identifies anatomical structures on all images used in the class.
	• Contributes with pertinent and correct comments in the discussion of the topic.
	• Poses questions that show a deep reflection on the topic.
		Facilitation activities:
		-Introduction of the professor to the stage through an electronic presentation.
		
		-Supervision and direction of discussions, about the components of the systems and regions of the human body, promoting deductive reasoning and respect for others.
		
		Learning activities:
		
		-Elaboration of synoptic tables.
		
		-Elaboration of summaries.
		
		- Description and interpretation of images and prosected pieces.
			Contenido conceptual:
			• Introduction to Human Anatomy
			  • Historical evolution
			  • Approaches to study
			  • Anatomical position
			  • Relationship terms
			• Skin and fascias
			  • Layers
			  • Fascias
			  • Aponcurosis
			  • Osteoarticular system
			  • Bones
			  • Joints
			  • Muscular system
			  • Funtions
			• Cardiovascular System
				• School of Medicine classrooms..
				• Human Anatomy Laboratory.
				• Dissection equipment.
				• Textbooks.
				• Reference books.
				• Audiovisual projection system.
				• Electronic presentations.
				• Bones and plastic models.
				• Dissected and prosected pieces.

Laboratory practices related to the identification and description of structures that integrate the human body in prosected anatomical pieces, such as the skin and fascia, the osteoarticular system, the cardiovascular system and the nervous system.	• Shows interest and respect for the comments during the discussion. • Has previous knowledge about the topic related to the clinical case. • Identifies the problem(s). • Presents explanations about the cause of the problem. • Has facility to make decisions. • Justifies his/her decision making. • Delivers its report on time. • Reflects the fulfillment of the objective(s) of the practice. • Correctly applies theoretical principles to practice. • Correctly uses international anatomical terminology. • Uses correctly the terms of position, relation and	-Elaboration and exposition of electronic presentations, regarding introductory topics of the components of the systems and regions of the human body, where the specialized language is used in a correct way. -Discussion and collaborative work on anatomical structures and their clinical correlation. -Exercise lab on the identification, description and comparison of anatomical structures in imaging studies on basic concepts of human anatomy.	• Hearth • Blood vessels • Nervous system • CNS • PNS • SNS • ANS **Procedural Content:** • Review clinical imaging studies compared to anatomical schemes emphasizing clinical aspects. • Raise their causes, investigate their magnitude and transcendence. • Presenting alternatives solution and evaluate the actions made. **Attitudinal Content:** -Respect for the human body, life and death. -Integrate into efficient teamwork.	

	movement of the human body. • Correctly identifies anatomical structures.			

Stage 2: Back.

Component(s) of the competence:

- Analyze the anatomical components of the dorsum through the identification, description and comparison in prosected pieces, image studies and clinical cases in order to establish morphological diagnosis and to support clinical procedures.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
Oral presentation on the conceptual content and its corresponding clinical correlation	• Demonstrates excellent knowledge of the subject. • Uses international anatomical terminology correctly. • Uses correctly the terms of position, relation and movement of the human body. • Correctly identifies anatomical structures on all images used in the class. • Contributes with pertinent and correct comments in the discussion of the topic.	**Facilitation activities:** -Introduction of the professor to the stage through an electronic presentation. -Supervision and direction of discussions on the Back, promoting deductive reasoning and respect for others. **Learning activities:** -Elaboration of synoptic tables. -Elaboration of summaries. -Description and interpretation of images and prosected pieces on the	**Conceptual Content:** • Dorsal región of the trunk • General concepts • Spine • Vertebrae • Joints • Ligaments • Vertebral duct • Dorsal Musculature • Superficial • Intermediate • Deep • Surface anatomy • Clinical correlations • Dorsal imaging **Procedural Content:** • Review clinical imaging studies compared to anatomical	• Classrooms of the Faculty of Medicine. • Human Anatomy Laboratory. • Dissection equipment. • Textbooks. • Reference books. • Audiovisual projection system. • Electronic presentations. • Bones and plastic models. • Dissected and prosected pieces.

Laboratory practices related to the identification and description of structures that integrate the human body in anatomical pieces prosected from the back.	• Poses questions that show a deep reflection on the topic. • Shows interest and respect for the comments during the discussion. • Has previous knowledge about the topic related to the clinical case. • Identifies the problem(s). • Presents explanations about the cause of the problem. • Has facility to make decisions. • Justifies his/her decision making. • Delivers its report on time. • Reflects the fulfillment of the objective(s) of the practice. • Correctly applies theoretical principles to practice. • Correctly uses international anatomical terminology. • Uses correctly the terms of position,	anatomical components of the Back. -Elaboration and exhibition of electronic presentations, where the specialized language is used correctly. -Discussion and collaborative work on anatomical structures and their clinical correlation. -Exercise lab on the identification, description and comparison of anatomical structures in imaging studies on basic concepts of human anatomy.	schemes emphasizing clinical aspects. • Raise their causes, investigate their magnitude and transcendence. • Presenting alternatives solution and evaluate the actions made. **Attitudinal Content:** -Respect for the human body, life and death. -Integrate into efficient teamwork.	

	relation and movement of the human body. • Correctly identifies anatomical structures.			
Stage 3: Upper extremity. **Component(s) of the competence:** • Analyze the anatomical components of the upper extremity through the identification, description and comparison in prosected pieces, image studies and clinical cases with the purpose of establishing morphological diagnosis and to support clinical procedures.				
Evidence of student learning	**Performance Criteria**	**Learning activities**	**Contents**	**Resources**
Oral presentation on the conceptual content and its corresponding clinical correlation.	• Demonstrates excellent knowledge of the subject. • Uses international anatomical terminology correctly. • Uses correctly the terms of position, relation and movement of the human body. • Correctly identifies anatomical structures on all images used in the class. • Contributes with pertinent and correct comments in the discussion of the topic.	**Facilitation activities:** -Introduction of the professor to the stage through an electronic presentation. -Supervision and direction of discussions of the anatomical components of the upper extremity, promoting deductive reasoning and respect for others. **Learning activities:** -Elaboration of synoptic tables. -Elaboration of summaries. -Description and interpretation of images and	**Conceptual Content:** • Upper limb • General concepts • Shoulder • Boness • Joints • Muscles • Armpit • Limits • Bones • Muscle compartments • Vascularization • Innervation • Arm • Limits • Bones • Muscle compartments • Vascularization • Innervation	• Classrooms of the Faculty of Medicine. • Human Anatomy Laboratory. • Dissection equipment. • Textbooks. • Reference books. • Audiovisual projection system. • Electronic presentations. • Bones and plastic models. • Dissected and prosected pieces.

Laboratory practices related to the identification and description of structures that integrate the human body in anatomical pieces prosected from the upper extremity.	• Poses questions that show a deep reflection on the topic.
	• Shows interest and respect for the comments during the discussion.
	• Has previous knowledge about the topic related to the clinical case.
	• Identifies the problem(s).
	• Presents explanations about the cause of the problem.
	• Has facility to make decisions.
	• Justifies his/her decision making.
	• Delivers its report on time.
	
	• Reflects the fulfillment of the objective(s) of the practice.
		prosected pieces of the anatomical components of the upper extremity.
		
		-Elaboration and exposition of electronic presentations, with respect to the anatomical components of the upper extremity, and where the specialized language is used in a correct way.
		
		-Discussion and collaborative work on anatomical structures and their clinical correlation.
		
		-Exercise lab on the identification, description and comparison of anatomical structures in imaging studies on basic concepts of human anatomy.
			• Elbow
			  • Limits
			  • Content
			  • Joints
			• Forearm
			  • Limits
			  • Bones
			  • Joints
			  • Muscle compartments
			  • Vascularization
			  • Innervation
			• Carpo
			  • Bones
			  • Joints
			  • Carpus Tunnel
			• Hand
			  • Limits
			  • Boness
			  • Jointss
			  • Muscles
			  • Vascularization
			  • Innervation
			• Surface Anatomy
			
			Procedural Content:
			• Review clinical imaging studies compared to anatomical schemes emphasizing clinical aspects.	

	• Correctly applies theoretical principles to practice. • Correctly uses international anatomical terminology. • Uses correctly the terms of position, relation and movement of the human body. • Correctly identifies anatomical structures.		• Raise their causes, investigate their magnitude and transcendence. • Presenting alternatives solution and evaluate the actions made. **Attitudinal Content:** -Respect for the human body, life and death. -Integrate into efficient teamwork.	

Stage 4: Lower extremity.

Component(s) of the competence:

- Analyze the anatomical components of the lower extremity through the identification, description and comparison in prosected pieces, image studies and clinical cases in order to establish morphological diagnosis and to support clinical procedures.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
Oral presentation on the conceptual content and its corresponding clinical correlation.	• Demonstrates excellent knowledge of the subject. • Uses international anatomical terminology correctly. • Uses correctly the terms of position, relation and movement of the human body.	**Facilitation activities:** -Introduction of the professor to the stage through an electronic presentation. -Supervision and direction of discussions of the anatomical components of the lower extremity, promoting deductive reasoning and respect for others.	**Contenido conceptual:** • Lower limb • General concepts • Hip • Bones • Joints • Gluteal region • Limits • Muscles • Vascularization • Nerves • Thigh	• Classrooms of the Faculty of Medicine. • Human Anatomy Laboratory. • Dissection equipment. • Textbooks. • Reference books. • Audiovisual projection system.

Laboratory practices related to the identification and description of structures that integrate the	• Correctly identifies anatomical structures on all images used in the class. • Contributes with pertinent and correct comments in the discussion of the topic. • Poses questions that show a deep reflection on the topic. • Shows interest and respect for the comments during the discussion. • Has previous knowledge about the topic related to the clinical case. • Identifies the problem(s). • Presents explanations about the cause of the problem. • Has facility to make decisions. • Justifies his/her decision making. • Delivers its report on time.	**Learning activities:** -Elaboration of synoptic tables. -Elaboration of summaries. -Description and interpretation of images and pieces prosected on the anatomical components of the lower extremity. -Elaboration and exhibition of electronic presentations, regarding the anatomical components of the lower limb, and where the specialized language is used in a correct way. -Discussion and collaborative work on anatomical structures and their clinical correlation. -Exercise lab on the identification, description and comparison of anatomical structures in imaging studies on basic concepts of human anatomy.	• Limits • Bones • Muscle compartments • Vascularization • Innervation • Popliteal fossa • Limits • Content • Joints • Leg • Limitss • Bones • Joints • Muscle compartments • Vascularization • Innervation • Ankle • Bones • Joints • Tarsus Tunnel • Foot • Limites • Bones • Joints • Muscles • Vascularization • Innervation • Surface Anatomy **Procedural Content:** • Review clinical imaging studies compared to	• Electronic presentations. • Bones and plastic models. • Dissected and prosected pieces.

human body in anatomical pieces prosected from the lower extremity. First partial exam.	• Reflects the fulfillment of the objective(s) of the practice. • Correctly applies theoretical principles to practice. • Correctly uses international anatomical terminology. • Uses correctly the terms of position, relation and movement of the human body. • Correctly identifies anatomical structures.		anatomical schemes emphasizing clinical aspects. • Raise their causes, investigate their magnitude and transcendence. • Presenting alternatives solution and evaluate the actions made. **Attitudinal Content:** -Respect for the human body, life and death. -Integrate into efficient teamwork.	

Stage 5: Thorax

Component(s) of the competence:

- Analyze the anatomical components of the thorax through the identification, description and comparison in prosected pieces, image studies and clinical cases in order to establish morphological diagnosis and to support clinical procedures.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
Oral presentation on the conceptual content and its corresponding clinical correlation.	• Demonstrates excellent knowledge of the subject.	**Facilitation activities:** -Introduction of the professor to the stage through an electronic presentation.	**Contenido conceptual:** • Chest • General concepts • Walle • Mammary gland	• Classrooms of the Faculty of Medicine. • Human Anatomy Laboratory.

	• Uses international anatomical terminology correctly. • Uses correctly the terms of position, relation and movement of the human body. • Correctly identifies anatomical structures on all images used in the class. • Contributes with pertinent and correct comments in the discussion of the topic. • Poses questions that show a deep reflection on the topic. • Shows interest and respect for the comments during the discussion. • Has previous knowledge about the topic related to the clinical case. • Identifies the problem(s). • Presents explanations about the cause of the problem. • Has facility to make decisions.	-Supervision and direction of discussions about the anatomical components of the thorax, promoting deductive reasoning and respect for others. **Learning activities:** -Elaboration of synoptic tables. -Elaboration of summaries. -Description and interpretation of images and prosected pieces of the anatomical components of the thorax. -Elaboration and exhibition of electronic presentations, regarding the anatomical components of the thorax, and where the specialized language is used in a correct way. -Discussion and collaborative work on anatomical structures and their clinical correlation. -Exercise lab on the identification, description and comparison of anatomical structures in imaging studies	• Bone and Joints • Muscles • Chest cavity • Pleural cavity • Pleura • Lungs • Trachea and main bronchi • Mediastinum • Upper mediastinum • Anterior Mediastinum • Medimu Mediastinum • Pericardium • Heart • Posterior Mediastinum • Surface Anatomy **Procedural Content:** • Identify, describe, compare anatomical structures through illustrations, image studies and prosected pieces. • Analyze clinical cases. **Attitudinal Content:** -Respect for the human body, life and death. -To integrate in efficient teamwork.	• Dissection equipment. • Textbooks. • Reference books. • Audiovisual projection system. • Electronic presentations. • Bones and plastic models. • Dissected and prosected pieces.

Laboratory practices related to the identification, description and comparison of structures that integrate the human body in prosected anatomical pieces of the thorax.	• Justifies his/her decision making. • Delivers its report on time. • Reflects the fulfillment of the objective(s) of the practice. • Correctly applies theoretical principles to practice. • Correctly uses international anatomical terminology. • Uses correctly the terms of position, relation and movement of the human body. • Correctly identifies anatomical structures.	on basic concepts of human anatomy.		

Stage 6: Abdomen.

Component(s) of the competence:
Analyze the anatomical components of the abdomen through the identification, description and comparison in prosected pieces, image studies and clinical cases in order to establish morphological diagnosis and to support clinical procedures.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
Oral presentation on the conceptual content and its corresponding clinical correlation	• Demonstrates excellent knowledge of the subject. • Uses international anatomical terminology correctly. • Uses correctly the terms of position, relation and movement of the human body. • Correctly identifies anatomical structures on all images used in the class. • Contributes with pertinent and correct comments in the discussion of the topic. • Poses questions that show a deep reflection on the topic. • Shows interest and respect for the comments during the discussion. • Has previous knowledge about the	**Facilitation activities:** -Introduction of the professor to the stage through an electronic presentation. -Supervision and direction of discussions of the anatomical components of the abdomen, promoting deductive reasoning and respect for others. **Learning activities:** -Elaboration of synoptic tables. -Elaboration of summaries. -Description and interpretation of images and pieces prosected on the anatomical components of the abdomen. -Elaboration and exhibition of electronic presentations, regarding the anatomical	**Conceptual Content:** • Abdomen • General concepts • Wall • Bones and Joints. • Muscles. • Inguinal region • Abdominal cavity • Peritoneum • Esophagus • Stomach • Small intestine • Large intestine • Spleen. • Pancreas. • Liver. • Bile duct • Portal system • Kidneys. • Ureters. • Adrenal gland. • Surface Anatomy **Procedural Content:**	• Classrooms of the Faculty of Medicine. • Human Anatomy Laboratory. • Dissection equipment. • Textbooks. • Reference books. • Audiovisual projection system. • Electronic presentations. • Bones and plastic models. • Dissected and prosected pieces.

Laboratory practices related to the identification, description and comparison of structures that integrate the human body in prosected anatomical pieces of the abdomen.	topic related to the clinical case. • Identifies the problem(s). • Presents explanations about the cause of the problem. • Reflects the fulfillment of the objective(s) of the practice. • Correctly applies theoretical principles to practice. • Correctly uses international anatomical terminology. • Uses correctly the terms of position, relation and movement of the human body. • Correctly identifies anatomical structures.	components of the abdomen, and where the specialized language is used in a correct way. -Discussion and collaborative work on anatomical structures and their clinical correlation. -Exercise lab on the identification, description and comparison of anatomical structures in imaging studies on basic concepts of human anatomy.	• Review clinical imaging studies compared to anatomical schemes emphasizing clinical aspects. • Raise their causes, investigate their magnitude and transcendence. • Presenting alternatives solution and evaluate the actions made. **Attitudinal Content:** -Respect for the human body, life and death. -Integrate into efficient teamwork.	

Stage 7: Pelvis and Perineum.

Component(s) of the competence:

- Analyze the anatomical components of the pelvis through the identification, description and comparison in prosected pieces, imaging studies and clinical cases in order to establish morphological diagnosis and to support clinical procedures.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
Oral presentation on the conceptual content and its corresponding clinical correlation.	• Demonstrates excellent knowledge of the subject. • Uses international anatomical terminology correctly. • Uses correctly the terms of position, relation and movement of the human body. • Correctly identifies anatomical structures on all images used in the class. • Contributes with pertinent and correct comments in the discussion of the topic. • Poses questions that show a deep reflection on the topic. • Shows interest and respect for the comments during the discussion. • Has previous knowledge about the	**Facilitation activities:** -Introduction of the professor to the stage through an electronic presentation. -Supervision and direction of discussions about the anatomical components of the pelvis, promoting deductive reasoning and respect for others. **Learning activities:** -Elaboration of synoptic tables. -Elaboration of summaries. -Description and interpretation of images and prosected parts of the anatomical components of the pelvis. -Elaboration and exhibition of electronic presentations, regarding the anatomical	**Conceptual Content:** • Pelvis. • General concepts • Wall. • Bones and Joints • Muscles. • Pelvic cavity • Peritoneum • Urinary system • Digestive system • Internal mal genitals • Internal female genitals • Perineum • Superficial perineal compartment. • Deep perineal compartment	• Classrooms of the Faculty of Medicine. • Human Anatomy Laboratory. • Dissection equipment. • Textbooks. • Reference books. • Audiovisual projection system. • Electronic presentations. • Bones and plastic models. • Dissected and prosected pieces.

Laboratory practices related to the identification, description and comparison of structures that integrate the human body in prosected anatomical pieces of the pelvis and perineum. Second partial exam.	topic related to the clinical case. • Identifies the problem(s). • Presents explanations about the cause of the problem. • Has facility to make decisions. • Justifies his/her decision making. • Delivers its report on time. • Reflects the fulfillment of the objective(s) of the practice. • Correctly applies theoretical principles to practice. • Correctly uses international anatomical terminology. • Uses correctly the terms of position, relation and movement of the human body. • Correctly identifies anatomical structures.	components of the pelvis, and where the specialized language is used in a correct way. -Discussion and collaborative work on anatomical structures and their clinical correlation. -Exercise lab on the identification, description and comparison of anatomical structures in imaging studies on basic concepts of human anatomy.	• External male genitalia. • External femal genitalia • Surface Anatomy **Procedural Content:** • Review clinical imaging studies compared to anatomical schemes emphasizing clinical aspects. • Raise their causes, investigate their magnitude and transcendence. • Presenting alternatives solution and evaluate the actions made. **Attitudinal Content:** -Respect for the human body, life and death. -Integrate into efficient teamwork.	

Stage 8: Neck.

Component(s) of the competence:
Analyze the anatomical components of the neck through the identification, description and comparison in prosected pieces, image studies and clinical cases with the purpose of establishing morphological diagnosis and supporting clinical procedures.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
Oral presentation on the conceptual content and its corresponding clinical correlation.	• Demonstrates excellent knowledge of the subject. • Uses international anatomical terminology correctly. • Uses correctly the terms of position, relation and movement of the human body. • Correctly identifies anatomical structures on all images used in the class. • Contributes with pertinent and correct comments in the discussion of the topic. • Poses questions that show a deep reflection on the topic. • Shows interest and respect for the comments during the discussion. • Has previous knowledge about the	**Facilitation activities:** -Introduction of the professor to the stage through an electronic presentation. -Supervision and direction of discussions about the anatomical components of the neck, promoting deductive reasoning and respect for others. **Learning activities:** -Elaboration of synoptic tables. -Elaboration of summaries. -Description and interpretation of images and prosected pieces of the anatomical components of the neck. -Elaboration and exhibition of electronic presentations, regarding the anatomical	**Conceptual Content:** • Neck • Bones and Joints • Vertebrae • Hyoids • Superficial Muscles • Sternocleidomastoid • Trapeze • Fascias and compartments • Superficial cervical fascia • Deep cervical fascia • Neck root • Vascularization • Arteries • Veins • Lymphatics • Innervation • Cervical spine nerves • Cranial nerves	• Classrooms of the Faculty of Medicine. • Human Anatomy Laboratory. • Dissection equipment. • Textbooks. • Reference books. • Audiovisual projection system. • Electronic presentations. • Bones and plastic models. • Dissected and prosected pieces.

Laboratory practices related to the identification, description and comparison of structures that integrate the human body in prosected anatomical pieces of the neck.	topic related to the clinical case. • Identifies the problem(s). • Presents explanations about the cause of the problem. • Has facility to make decisions. • Justifies his/her decision making. • Delivers its report on time. • Reflects the fulfillment of the objective(s) of the practice. • Correctly applies theoretical principles to practice. • Correctly uses international anatomical terminology. • Uses correctly the terms of position, relation and movement of the human body. • Correctly identifies anatomical structures.	components of the neck, and where the specialized language is used in a correct way. -Discussion and collaborative work on anatomical structures and their clinical correlation. -Exercise lab on the identification, description and comparison of anatomical structures in imaging studies on basic concepts of human anatomy.	• Autonomous Nerves • Airway and digestive tract • Pharynx • Larynx • Esophagus • Surface Anatomy **Procedural Content:** • Review clinical imaging studies compared to anatomical schemes emphasizing clinical aspects. • Raise their causes, investigate their magnitude and transcendence. • Presenting alternatives solution and evaluate the actions made. **Attitudinal Content:** -Respect for the human body, life and death. -Integrate into efficient teamwork.	

Stage 9: Head

Component(s) of the competence:
Analyze the anatomical components of the head through the identification, description and comparison in prosected pieces, image studies and clinical cases in order to establish morphological diagnosis and to support clinical procedures.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources
Oral presentation on the conceptual content and its corresponding clinical correlation.	• Demonstrates excellent knowledge of the subject. • Uses international anatomical terminology correctly. • Uses correctly the terms of position, relation and movement of the human body. • Correctly identifies anatomical structures on all images used in the class. • Contributes with pertinent and correct comments in the discussion of the topic. • Poses questions that show a deep reflection on the topic. • Shows interest and respect for the comments during the discussion. • Has previous knowledge about the	**Facilitation activities:** -Introduction of the professor to the stage through an electronic presentation. -Supervision and direction of discussions on clinical cases concerning the anatomical components of the head, promoting deductive reasoning and respect for others. **Learning activities:** -Elaboration of synoptic tables. -Elaboration of summaries. -Description and interpretation of images and prosected pieces of the anatomical components of the head. -Elaboration and exposition of electronic presentations, regarding the anatomical	**Conceptual Content:** • Head • General Concepts • Definition • Limits • Composition • Functions • Bones and Joints • General views of the skull • Viscerocranial cavities • Orbital cavitiy • Nasal cavity • Oral cavity • Transition regions (fossa) • Temporal fossa • Infratemtoral fossa • Pterigopalatine fossa • Surface Anatomy **Procedural Content:**	• Classrooms of the Faculty of Medicine. • Human Anatomy Laboratory. • Dissection equipment. • Textbooks. • Reference books. • Audiovisual projection system. • Electronic presentations. • Bones and plastic models. • Dissected and prosected pieces.

Laboratory practices related to the identification, description and comparison of structures that integrate the human body in anatomical pieces prosected from the head.	topic related to the clinical case. • Identifies the problem(s). • Presents explanations about the cause of the problem. • Has facility to make decisions. • Justifies his/her decision making. • Delivers its report on time. • Reflects the fulfillment of the objective(s) of the practice. • Correctly applies theoretical principles to practice. • Correctly uses international anatomical terminology. • Uses correctly the terms of position, relation and movement of the human body. • Correctly identifies anatomical structures.	components of the head, and where the specialized language is used in a correct way. -Discussion and collaborative work on anatomical structures and their clinical correlation. -Exercise lab on the identification, description and comparison of anatomical structures in imaging studies on basic concepts of human anatomy.	• Review clinical imaging studies compared to anatomical schemes emphasizing clinical aspects. • Raise their causes, investigate their magnitude and transcendence. • Presenting alternatives solution and evaluate the actions made. **Attitudinal Content:** -Respect for the human body, life and death. -Integrate into efficient teamwork.	

Stage 10: Nervous System.

Component(s) of the competence:
Analyze the anatomical components of the Central Nervous System through the identification, description and comparison in prosected pieces, image studies and clinical cases with the purpose of establishing morphological diagnosis and to support clinical procedures.

Evidence of student learning	Performance Criteria	Learning activities	Contents	Resources

Oral presentation on the conceptual content and its corresponding clinical correlation.	• Demonstrates excellent knowledge of the subject.
	• Uses international anatomical terminology correctly.
	• Uses correctly the terms of position, relation and movement of the human body.
	• Correctly identifies anatomical structures on all images used in the class.
	• Contributes with pertinent and correct comments in the discussion of the topic.
	• Poses questions that show a deep reflection on the topic.
	• Shows interest and respect for the comments during the discussion.
	• Has previous knowledge about the
		Facilitation activities:
		-Introduction of the professor to the stage through an electronic presentation.
		
		-Supervision and direction of discussions on clinical cases regarding the anatomical components of the Central Nervous System, promoting deductive reasoning and respect for others.
		
		Learning activities:
		
		-Elaboration of synoptic tables.
		
		-Elaboration of summaries.
		
		-Description and interpretation of images and prosected pieces of the anatomical components of the Central Nervous System.
		
		-Elaboration and exhibition of electronic presentations, regarding the anatomical
			Conceptual Content:
			• General Concepts
			• Spinal cord
			• Braim stem
			  • Bulb
			  • Protuberance
			  • Midbrain
			• Cerebellum
			• Brain
			  • Surface
			  • White substance
			• Basal nucleus
			  • Caudate nucleus
			  • Lenticular nucleus
			• Thalamus
			• Hypothalamus
			• Menínges and CSF
			• Ventricular system
			• CNS functional systems
			  • Motorway
			  • Conscious propioception pathway
			  • Pain and temperatura pathway
			  • Limbic system
			• CNS vascularization
			
			Procedural Content:
				• Classrooms of the Faculty of Medicine.
				• Human Anatomy Laboratory.
				• Dissection equipment.
				• Textbooks.
				• Reference books.
				• Audiovisual projection system.
				• Electronic presentations.
				• Bones and plastic models.
				• Dissected and prosected pieces.

Laboratory practices related to the identification, description and comparison of structures that integrate the human body in prosected anatomical pieces of the nervous system. Third partial exam. Final exam.	topic related to the clinical case. • Identifies the problem(s). • Presents explanations about the cause of the problem. • Has facility to make decisions. • Justifies his/her decision making. • Delivers its report on time. • Reflects the fulfillment of the objective(s) of the practice. • Correctly applies theoretical principles to practice. • Correctly uses international anatomical terminology. • Uses correctly the terms of position, relation and movement of the human body. • Correctly identifies anatomical structures.	components of the Central Nervous System, and where the specialized language is used in a correct way. -Discussion and collaborative work on anatomical structures and their clinical correlation. -Exercise lab on the identification, description and comparison of anatomical structures in imaging studies on basic concepts of human anatomy.	• Review clinical imaging studies compared to anatomical schemes emphasizing clinical aspects. • Raise their causes, investigate their magnitude and transcendence. • Presenting alternatives solution and evaluate the actions made. **Attitudinal Content:** -Respect for the human body, life and death. -Integrate into efficient teamwork.	

7. Summative Evaluation:

Oral presentation on specific anatomical structures (daily class)……10%

Laboratory practices related to the identification, description and comparison of structures that make up the human body in prosected anatomical pieces:

Laboratory ……10%

Course Integrative Product (CIP), presentation of the dissection ……5%

Partial exams (3)……45%

Final Exam ……30%

Total……100%

8. Course Integrative Product.

Portfolio including clinical cases, laboratory exercises, and laboratory practice related to the integration of the fundamental aspects of human anatomy.

9. References

Bibliography:

Drake, R., Vogl, W. & Mitchell, A. (2015). *Gray anatomía para estudiantes.* Madrid: Elsevier.

Guzmán, S. & Elizondo, R. (2015). *Anatomía Humana en Casos Clínicos: Aprendizaje centrado en el razonamiento clínico.* México: Panamericana.

Guzmán, S., Elizondo, R. & Bañuelos M. (2015). *Manual para el Laboratorio de Anatomía Humana.* México: Panamericana.

Guzmán, S. (2011). *Notas de anatomía para estudiantes*. Monterrey, México: Imprenta Universitaria.

Guzmán, S. (2012). *Neuroanatomía para estudiantes*. Monterrey, México: Imprenta Universitaria.

Moore, K. L. (2013). *Anatomía con orientación clínica*. Barcelona: Lippincott Williams & Wilkins.

Netter, F. H. (2006). *Atlas of Human Anatomy.* Madrid: Saunders/Elsevier.

Electronic sources:

Departamento de Anatomía Humana, U.A.N.L.: www.medicina.uanl.mx/anatomia

The American Association of Anatomists (AAA): www.anatomy.org

The American Association of Clinical Anatomists (AACA): www.clinicalanatomy.org

The Anatomical Society of Great Britain and Ireland (ASGBI): www.anatsoc.org.uk

Anatomisches Gesellschaft:

British Association of Clinical Anatomists (BACA): www.liv.ac.uk/HumanAnatomy/phd/baca/

European Federation for Experimental Morphology (EFEM): www.unifr.ch/efem/

International Federation of Associations of Anatomists (IFAA): www.ifaa.lsumc.edu

International Society for Plastination: www.kfunigraz.ac.at

Société Suisse d'Anatomie, d'Histologie et d'Embryologie / Schweizerische Ge-sellschaft für Anatomie, Histologie und Embryologie (SGAHE / SSAHE): www.unifr.ch/sgahe/

APPENDIX.

ASSESSMENT AND WORKLOAD

Module workload		Number of hours	Percentage
Contact hours	Class-based instruction	85h (88.54%)	26.66%= 96 hours
	Oral presentation	3h (3.12%)	
	Laboratory practice evaluation	3h (3.12%)	
	Course integrative product (CIP)	1h (1.04%)	
	Exam taking	4h (4.16%)	
Independent study	Study	124h (46.96%)	73.33%= 264 horas
	Exam preparation	140h (53.03%)	
Total hours of the workload: 30 hours X 12 credits UANL/ECTS*		360 h	

*European Credit Transfer and Accumulation System
1 UANL credit = 30 hours

NOTE: Rubrics, checklists and evaluation formats are elaborated by using the performance criteria described in each stage of the module.

SUPLEMENTO COVID-19

Siguiendo las recomendaciones de la Secretaría de Salud del país y la Rectoría de la Universidad, ante la coyuntura de salud COVID-19, la organización de la docencia desde marzo del 2020, seguirá un modelo híbrido, donde la docencia se ajustará a los horarios aprobados por la Secretaría de Salud siguiendo un modelo de Presencialidad / No presencialidad en la medida en que las circunstancias sanitarias y la normativa lo permitan. Los estudiantes asistirán a las clases de manera no presencial mediante la transmisión de las mismas de manera síncrona/asíncrona vía “on line”.