



1.	Course title	Introduction to Anatomy and Embryology	
2.	Course number	0532110	
3.	Credit hours	2 Theory	1 Practical
	Contact hours (theory, practical)	26 Lectures and 12 Labs	
4.	Prerequisites/Corequisites	General Biology 1 (0304101)	
5.	Program title	Doctor of Medicine	
6.	Program code	-	
7.	Awarding institution	The University of Jordan	
8.	School	School of Medicine	
9.	Department	Anatomy and Histology Department	
10.	Course level	Bachelor	
11.	Year of study and semester (s)	First year/ Second Semester	
12.	Other department (s) involved in teaching the course	-	
13.	Main Learning language	English	
14.	Learning Types	<input type="checkbox"/> Face to face learning x <input checked="" type="checkbox"/> Blended <input type="checkbox"/> Fully online	
15.	Online platforms(s)	x <input type="checkbox"/> Moodle x <input type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others.....	
16.	Issuing/Revision Date	24/2/2025	

17. Course Coordinator:

Name: **Prof. Dr. Heba Kalbouneh**

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**18. Other instructors:**

Name: **Dr. Maha ElBeltagy** Contact hours: **Mondays and Thursdays (11:00-12:00)**

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Name: **Dr. Ahmed Salman** Contact hours: **Mondays and Thursdays (11:00-12:00)**

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19. Course Description:**Course Description:**

This course covers the major systems of the body, including the musculoskeletal, cardiovascular, respiratory, gastrointestinal, nervous, and reproductive systems. It aims to provide students with a comprehensive understanding of the structure and development of the human body. This course will explore the organization of body systems, the relationships between anatomical structures, and the processes of embryological development from fertilization to birth. The course combines lectures with practical sessions, including prosections, anatomical models, 3D imaging, and clinical case discussions to bridge the gap between theoretical knowledge and clinical practice. Through interactive tools, students will gain the skills necessary to recognize anatomical structures and understand their physiological roles. By the end of the course, students will have a strong anatomical foundation to support their future studies in other basic sciences, clinical medicine and surgery.



20. Program Intended Learning Outcomes (PLOs) (To be used in designing the matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program):

- 1. Demonstrate basic knowledge of normal human structure and function at molecular, genetic, cellular, tissue, organ, system and whole-body levels in terms of growth, development, and health maintenance. Analyze the basic molecular and cellular mechanisms involved in the causation and treatment of human disease and their influence on clinical presentation and therapy.**
- 2. Collect, interpret, document, and communicate accurately a comprehensive medical history, including the psychological and behavioral factors, and a thorough organ-system-specific physical examination inclusive of the mental status of the patient.**
- 3. Integrate and communicate collected clinical information in the construction of appropriate diagnostic and therapeutic management strategies to identify life-threatening conditions ensuring prompt therapy, referral, and consultation with relevant disciplines and skillfully perform basic medical procedures for general practice on patients with common illness, acute and chronic, taking into account environmental, social, cultural and psychological factors.**
- 4. Demonstrate in-depth knowledge of the epidemiology and biostatistics of common diseases, and analyze the impact of ethnicity, culture, socioeconomic factors and other social factors on health, disease and individual patient's health care.**
- 5. Communicate effectively and professionally, both orally and in writing, with patients, their families, and with other healthcare providers utilizing information technology resources in his/her scholarly activities and professional development with the ability to teach others, and to understand and respect other healthcare professionals' roles, and apply the principles of multidisciplinary teamwork dynamics and collaboration.**
- 6. Apply scientific methods including evidence –based approach to the medical practice including problem identification, data collection, hypothesis formulation, etc., and apply inductive reasoning to problem solving and ensure that clinical reasoning and decision making are guided by sound ethical principles.**
- 7. Demonstrate knowledge of scientific research methods and ethical principles of clinical research and be able to write research proposals or research papers.**



8. **Demonstrate professionally the skills needed for Quality improvement, lifelong learning, and continuous medical education including the ability to identify and address personal strength and weakness, self-assess knowledge and performance, and develop a self-improvement plan.**

21. Intended Learning outcomes of the course (CLOs): Upon completion of the course, the student will be able to achieve the following intended learning outcomes:

1. **Identify and describe the basic structures of the human body:** Students will be able to recognize and name major body parts, organs, and systems, connecting the structure of body parts to their physiological functions and explain how anatomy supports bodily functions.
2. **Understand anatomical terminology:** Students will demonstrate proficiency in using standard anatomical terms to describe the locations, movements, and positions of various body parts.
3. **Analyze the major organ systems:** Students will describe the structure, function, and interrelationships of the major human organ systems, including the skeletal, muscular, circulatory, respiratory, digestive, and nervous systems.
4. **Apply anatomical knowledge to basic clinical scenarios:** Students will relate anatomical knowledge to practical situations, such as understanding common injuries, diseases, or disorders, and how they affect body structures.
5. **Communicate anatomical knowledge effectively:** Students will communicate anatomical information clearly and accurately, both verbally and in writing, to peers and instructors.
6. **Identify and explain key processes in early development:** Students will be able to define and explain fundamental embryological processes, such as fertilization, cleavage, blastulation, gastrulation, and neurulation.
7. **Describe the formation and differentiation of germ layers:** Students will demonstrate an understanding of how the ectoderm, mesoderm, and endoderm germ layers' form and give rise to different tissues and organs in the developing embryo.

22. The matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program):

Program ILOs / ILOs of the course	CLO (1)	CLO (2)	CLO (3)	CLO (4)	CLO (5)	CLO (6)	CLO (7)
PLO (1)	x	x	x			x	x
PLO (2)					x		
PLO (3)				x			
PLO (4)							
PLO (5)							
PLO (6)							
PLO (7)							
PLO (8)							



23. Topic Outline and Schedule:

Week	Lecture	Topic	Student Learning Outcome (SLO)	Learning Types (Face to Face/Blended/ Fully Online)	Platform Used	Synchronous / Asynchronous Lecturing	Evaluation Methods	Learning Resources
1	1.1	Anatomical Terminology 1	Define anatomical position, anatomical directional terms and planes. Review anatomical regional terms. Outline major body cavities.	Face to face		Synchronous Lecturing	Written exam	28. A
	1.2	Anatomical Terminology 2	Define anatomical terms related to movement. Review and define the terms used to describe bone markings/ features on bones.	Face to face		Synchronous Lecturing	Written exam	28. A
	1.3	Skeletal system 1	Classify bones according to their shapes. Mention the components of the axial and appendicular skeleton and differentiate between them. Review the terminology of bone articulations and features.	Face to face		Synchronous Lecturing	Written exam	28. A
2	2.1	Skeletal system 2	Identify bones of the upper limb and their main external features. Identify the joints of upper limb, their articulating surfaces, joint type and movements they allow.	Face to face		Synchronous Lecturing	Written exam	28. A



	2.2	Introductory lab		Face to face		Synchronous	Written exam	28. A
	2.3	Embryology: Male reproductive system	Distinguish anatomy of the male reproductive system (parts, function and neurovascular supply).	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A
3	3.1	Skeletal system 3	Identify bones of the lower limb and their main external features. Identify the joints of lower limb, their articulating surfaces, joint type and movements they allow.	Face to face		Synchronous Lecturing	Written exam	28.A
	3.2	Appendicular skeleton lab (clavicle, scapula & humerus)	Outline the bones forming the shoulder girdle and arm (clavicle, scapula & humerus). Recognize main anatomical features of each bone. Describe the types of joints of the upper limb, articulating surfaces and movements allowed.	Face to face		Synchronous	Written exam	28.A
	3.3	Embryology: Female reproductive system	Distinguish anatomy of the female reproductive system (parts, function and neurovascular supply).	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A
4	4.1	Skeletal system 4	Outline bones forming the axial skeleton (skull, sternum, ribs and vertebra) and their main external features.	Face to face		Synchronous Lecturing	Written exam	28. A
	4.2	Appendicular skeleton lab (radius, ulna & bones of hand)	Outline the bones forming the forearm and hand (radius, ulna, carpals, metacarpals & phalanges). Recognize main anatomical features of each bone. Describe the types of joints of the upper limb, articulating surfaces and movements allowed.	Face to face		Synchronous	Written exam	28.A



	4.3	Embryology: Mitosis and Meiosis	Understand the process Mitosis and Meiosis	Blended	Moodle	Asynchrono us Lecturing	Written exam/ Online activities and assignments	28.A
5	5.1	Muscular System 1	Define the criteria employed in naming skeletal muscles Explain the roles of the prime mover, antagonist, and synergist Identify the main muscle groups in the upper limb by name, action, and innervations	Blended	Moodle	Asynchrono us Lecturing	Written exam/ Online activities and assignments	28.A
	5.2	Appendicular skeleton lab (hip bone & femur)	Outline the bones forming the pelvic girdle and thigh (hip bone & femur). Recognize main anatomical features of each bone. Describe the types of joints of the lower limb, articulating surfaces and movements allowed.			Synchronou		
	5.3	Embryology: Gametogenesis	Understand the process of sperm and oocyte formation and maturation	Blended	Moodle	Asynchrono us Lecturing	Written exam/ Online activities and assignments	28.A
6	6.1	Muscular System 2	Identify the main muscle groups in the lower limb by name, action, and innervation.	Face to face		Synchronous Lecturing	Written exam	28. A
	6.2	Appendicular skeleton lab (tibia, fibula & bones of foot)	Outline the bones forming the leg and foot (tibia, fibula, tarsals, metatarsals & phalanges).	Face to face		Synchronous	Written exam	28. A



			Recognize main anatomical features of each bone. Describe the types of joints of the lower limb, articulating surfaces and movements allowed.					
	6.3	Embryology: Fertilization & cleavage	Describe the phases of the Fertilization process.	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A
7	7.1	Muscular System 3	Identify the main muscles in the head and neck region by name, action, and innervation. Identify the muscles forming thoracic and abdominal walls by name, action, and innervation.	Face to face		Synchronous Lecturing	Written exam	28.A
	7.2	Axial skeleton Lab	Outline the bones forming the axial skeleton. Recognize facial and cranial bones. Identify the main anatomical features of vertebral column, ribs and sternum.	Face to face		Synchronous	Written exam	28.A
	7.3	Embryology	Online discussion	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A
8	Midterm exam							
9	9.1	Cardiovascular System 1	Identify the location of the heart in the mediastinum its external features Identify the chambers, great vessels and valves of the heart Describe the major branches of the aorta	Face to face		Synchronous Lecturing	Written exam	28.A



			and the structures they supply. Describe the major tributaries of the vena cavae and the structures they drain.					
	9.2	Muscles Lab 1	Recognize the main muscles in the upper limb, their origin, insertion and action.	Face to face		Synchronou	Written exam	28.A
	9.3	Embryology: implantation & blastocysts	Know the process of implantation Identify the meaning of blastocyst	Blended	Moodle	Asynchronou us Lecturing	Written exam/ Online activities and assignments	28.A
10	10.1	Cardiovascular System 2	Define the structure of the pericardium Identify the blood supply to the heart Identify the principal arteries and veins of the systemic and pulmonary circulation	Face to face		Synchronous Lecturing	Written exam	28.A
	10.2	Muscles Lab 2	Recognize the main muscles in the lower limb, their origin, insertion and action. Identify the muscles commonly used for intramuscular injections.	Face to face		Synchronou	Written exam	28.A
	10.3	Embryology: Bilaminar disc	Define the bilaminar disc and its significance for the implantation during the second week of fetal development. Describe the formation of the bilaminar germ disc and the amniotic cavity.	Blended	Moodle	Asynchronou us Lecturing	Written exam/ Online activities and assignments	28.A
11	11.1	Respiratory system	Describe the lungs, their lobes and fissures, and external features. Understand the structure of the pleura and its nerve supply. Describe the muscles involved in respiration	Face to face		Synchronous Lecturing	Written exam	28.A



			and the role of the phrenic nerve.					
	11.2	Heart and lungs Lab	<p>Identify the external anatomical features of the heart, its chambers and valves.</p> <p>Identify the major branches of the aorta.</p> <p>Identify the major tributaries of the vena cavae.</p> <p>Describe the main anatomical features of the lungs and differentiate between right and left lungs.</p>	Face to face		Synchronous	Written exam	28. A
	11.3	Embryology: Trilaminar germ disc	Describe the formation of trilaminar germ disc.	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A
12	12.1	Digestive System	<p>Describe the basic anatomical features of the different structures of the gastro-intestinal tract.</p> <p>Identify the accessory organs of digestion and their main anatomical features.</p> <p>Describe the components of portal venous system.</p>	Face to face		Synchronous	Written exam	28.A
	12.2	Digestive system Lab	Describe the basic anatomical differences between the organs of digestive tract.	Face to face		Synchronous	Written exam	28. A
	12.3	Embryology: Derivatives of the ectoderm and neural tube	Understand and list derivatives of ectoderm	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A



13	13.1	Urinary genital system	<p>Identify the external and internal gross anatomical features of the kidney.</p> <p>Describe the basic anatomical features of ureter, urinary bladder and urethra.</p> <p>Recognize the various parts of the male/female reproductive tracts and their main anatomical differences.</p>	Face to face		Synchronous Lecturing	Written exam	28.A
	13.2	Urinary genital system Lab	<p>Describe the basic anatomical features of the kidneys.</p> <p>Describe the basic anatomical differences between different reproductive organs.</p>	Face to face		Synchronous	Written exam	28. A
	13.3	Embryology: Derivatives of the mesoderm and endoderm	<p>Understand and list derivatives of mesoderm and endoderm</p>	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A
14	14.1	Nervous system 1	<p>Review the classification of nervous system into CNS & PNS, and explain the terms autonomic and somatic.</p> <p>List the main anatomical differences between somatic and autonomic nervous systems.</p>	Face to face		Synchronous Lecturing	Written exam	28.A
	14.2	Nervous system 2	<p>Review the Describe the basic gross anatomical features of the spinal cord.</p> <p>Describe the basic anatomy of a typical spinal nerve.</p> <p>Distinguish the main parts of the brain, its lobes and the main functional areas of the cortex.</p>	Face to face		Synchronous Lecturing	Written exam	28.A



	14.3	Nervous system Lab	Label the main gross anatomical features of the spinal cord. Using brain models and sections, identify cerebral lobes, main gyri and sulci, thalamus, hypothalamus, midbrain, pons, medulla oblongata and cerebellum.	Face to face		Synchronous	Written exam	28. A
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24. Evaluation Methods:

Opportunities to demonstrate achievement of the SLOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	Descriptors**	Period (Week)	Platform
Midterm exam	40	Anatomical terminology, Skeletal system, Muscular system.	K S	8 th week	Paper-based exam
Practical exam	15	Anatomical terminology, Skeletal system, Muscular system, Cardiovascular system, Respiratory system, Digestive system, Urogenital system, Nervous system.	C	15 th -16 th week	Paper-based exam
Online activities	5	All blended topics	K S	1 st -14 th week	Moodle
Final exam	40	Cardiovascular system, Respiratory system, Digestive system, Urogenital system, Nervous system.	K S C	15 th -16 th week	Paper-based exam

** K: Knowledge, S: Skills, C: Competency

25. Course Requirements

- ✓ Class room Lectures
- ✓ Internet connection
- ✓ Online educational material using Moodle platform (Electronic Videos and Activities)
- ✓ Anatomy Lab



26. Teaching Methods and Assignments:

Development of ILOs is promoted through the following teaching and learning methods:

- ✓ Class room Lectures
- ✓ Interactive Videos and Animations
- ✓ Online activities and assignments
- ✓ Open Laboratory sessions
- ✓ Discussion sessions and forums
- ✓ Game- based learning

27. Course Policies:

A- Attendance policies:

Attendance will be monitored by the course coordinator. Attendance policies will be announced at the beginning of the course.

B- Absences from exams and handing in assignments on time:

Will be managed according to the University of Jordan regulations. Refer to <http://registration.ju.edu.jo/Documents/daleel.pdf>

C- Health and safety procedures:

Faculty Members and students must at all times, conform to Health and Safety rules and procedures.

D- Honesty policy regarding cheating, plagiarism, misbehavior:

As a student in this course (and at this university) you are expected to maintain high degrees of professionalism, commitment to active learning and participation in this course and also integrity in your behavior in and out of the classroom. Students violate this policy would be subjected to disciplinary action according to University of Jordan disciplinary policies

E- Grading policy:

Grade-point average, Rules are preset by the Faculty and Department Councils

F- Available university services that support achievement in the course:

Availability of comfortable lecture halls, data show, internet service and E learning website <https://elearning.ju.edu.jo/> .

28. References:

A- Required book (s), assigned reading and audio-visuals:

**Gray, H. Gray's Anatomy: With original illustrations by Henry Carter. ANY EDITION
Langman's Medical Embryology 14th Edition**

B- Recommended books, materials, and media:

**Snell, R. Clinical Anatomy by Systems. ANY EDITION
Agur and Dalley. Grant's Atlas of Anatomy. ANY EDITION**



28. Additional information:

Name of Course Coordinator: **Dr Heba Kalbouneh**

Date:26-2-2025

Signature:

Heba Kalbouneh


Head of Department: **Dr Ahmad Salman**

Signature:

Head of Curriculum Committee/Faculty:

Signature:

Dean:

Signature: