1.	Course title	Introduction to Aanatomy and Embryology	
2.	Course number	0532110	
3.	Credit hours	2 Theory	1 Practical
	Contact hours (theory, practical)	14 Lectures and 14 Labs	
4.	Prerequisites/Corequisites	General Biology 1 (0304101)	
5.	Program title	Doctor of Medicine	
6.	Program code	05	
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	☐Face to face learning x☐Blended ☐Fully online	
15.	Online platforms(s)	x☐Moodle ☐Microsoft Teams ☐Skype ☐Zoom ☐Others……	
16.	Issuing/Revision Date	20/12/2023	

17. Course Coordinator:

Name: Dr. Ahmed Salman

Contact hours: Tuesdays 12.00pm-2.00pm and Wednesdays 11.00am- 1.00pm

Office number: 148 **Phone number:** 065355000/23426

Email: Ahmed.salman@ju.edu.jo,

18. Other instructors:

Name:	Contact hours:
Office number:	Phone number:
Email:	

19. Course Description and Aims:

A- Course Description:

Gross Anatomy

- The course is designed to provide students with clear and detailed concepts of general anatomy.
- General overview of different body structures and systems

Embryology:

- The course is designed to provide students with clear and detailed concepts of general embryology .
- General overview of the fetal development and its major milestones will be learnt; starting from fertilization, implantation and its subsequent development into a bilaminar and trilaminar germ discs.
- By the end of the course ,students will acquire the ability to list derivatives of ectoderm , mesoderm and endoderm.

B- Aims:

•The objectives of this course include teaching the students general anatomy and embryology, as well as enabling them to distinguish between various anatomical structures and their functions.

•At the end of this course, the student is expected to have general knowledge in human anatomy, distinguish the various structures, and understand the blood & nerve supply and the function of each structure.

•Furthermore, the student must learn the major phases of fertilization, implantation, and fetal development

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. **Describe the normal anatomy of various regions of the human body (different tissues, organs and systems)** *(Knowledge)*
2. **Demonstrate the surface landmarks of the underlying bones, muscles and tendons of the body** *(Skill)*
3. **Recognize the structure, classification and function of bones. Identify the different bones of axial and appendicular skeleton** *(Knowledge)*
4. **Demonstrate the types and classification of important joints of the body, their movements and the muscles producing these movements.** *(Skill)*
5. **Recognize the embryological processes of gastrulation; how the different germ layers' form and what these germ layers will eventually give rise to.** *(Knowledge)*
6. **Understand environmental and genetic factors which may impair human development.** *(Skill)*
7. **Illustrate and differentiate different types of nerve injures of body and it clinical manifestations.** *(Comprehension)*
8. **Relate the relation of different vessels and their use in clinical practice** *(Comprehension)*

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)	CLO (8)
PLO (1)	✓	✓	✓		✓		✓	✓
PLO (2)								
PLO (3)								
PLO (4)								
PLO (5)						✓		
PLO (6)				✓			✓	
PLO (7)								
PLO (8)								

23. Topic Outline and Schedule:

Week	Lecture	Topic	Student Learning Outcome (SLO)	Descriptors **	Learning Types (Face to Face/Blended/ Fully Online)	Platform Used	Synchronous / Asynchronous Lecturing	Evaluation Methods	Learning Resources
1	1.1	Introduction	- Define anatomical position ،anatomical terms, planes a -Define the levels of structural organization that make up the human body	K K	Face to face		Synchronous Lecturing	Written exam	28. A
	1.2	Skeletal system 1	- Identify different types of bones - Name bones of the axial skeleton and appendicular skeleton - Name different parts of bones of the upper limb	K K K	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A
	1.3	Appendicular system Lab 1	- Describe different parts of bones of the upper limb -Recognize different anatomical features of each bone	S S	Face to face			Written exam	28.A
	2.1	Skeletal system 2	- Name different parts of bones of the lower limb - -Recognize different anatomical	K S	Face to face		Synchronous Lecturing	Written exam	28.A

			features of each bone						
	2.2	Skeletal system 3	- Name different parts of bones of the axial skeleton - Cranial and facial bones (skull overview) Sternum, ribs and vertebra	K	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A
	2.3	Appendicular system Lab 2	- Describe different parts of bones of the lower limb -Recognize different anatomical features of each bone	S S	Face to face			Written exam	28.A
	3.1	Skeletal system 4	- List main joints of the upper limb; (type,movements and articular surfaces) -Know main joints of the lower limb; (type, movements and articular surfaces)	K K	Face to face		Synchronous Lecturing	Written exam	28.A
	3.2	Muscular System 1	- Define the criteria employed in naming skeletal muscles - Explain the roles of the prime mover, antagonist, and synergist - Identifyprincipal skeletal muscles in the pectoral region and arm by name, origin	K S S	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A

			insertion, action , and innervations						
	3.3	Axial skeleton Lab	- Recognize different parts of bones of axial skeleton - -Demonstrate different anatomical features of each bone	S S	Face to face			Written exam	28.A
	4.1	Muscular System 2	-Know principal skeletal muscles in the forearm (origin insertion, action , and innervations)	K	Face to face		Synchronous Lecturing	Written exam	28.A
	4.2	Muscular System 3	Identify principal skeletal muscles in the gluteal region and thigh by name, origin insertion, action , and innervations	K	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A &B
	4.3	Muscles Lab 1	Recognize principal skeletal muscles in the pectoral region and arm	S	Face to face			Written exam	28.A
	5.1	Muscular System 4	Identify principal skeletal muscles in the leg by name, origin insertion, action , and innervations	K	Face to face		Synchronous Lecturing	Written exam	28.A
	5.2	Male reproductive system	Distinguish anatomy of the male reproductive system (parts, function and	K	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A &B

			neurovascular supply).						
	5.3	Muscles Lab 2	Recognize principal skeletal muscles of the forearm	S	Face to face			Written exam	28.A
	6.1	Cardiovascular System 1	- Identify the shape location of the heart in the mediastinum and its surface markings -Identify the chambers, great vessels and valves of the heart	K	Face to face		Synchronous Lecturing	Written exam	28.A
	6.2	Female reproductive system	Distinguish anatomy of the female reproductive system (parts, function and neurovascular supply).	K	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A &B
	6.3	Muscles Lab 3	Recognize principal skeletal muscles of the thigh and gluteal region	S	Face to face			Written exam	28.A
	7.1	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	K K K	**Face to face**		**Synchronous Lecturing**	**Written exam**	28.A
	7.2	Gametogenesis	Understand the process of sperm and oocyte	S	**Blended**	**Moodle**	**Asynchronous Lecturing**	**Written exam/ Online activities**	28.A &B

			formation and maturation					**and assignments**	
	7.3	Muscles Lab 4	Demonestrate principal skeletal muscles of the leg	S	**Face to fac**			**Written exam**	28.A
8	Midterm Exam								
9	9.1	Respiratory system	- Describe the lungs, their lobes and fissures, relations, blood and nerve supply and side identification. -Understand the structure of the pleura and its nerve supply	**K** S	**Face to face**		**Synchronous Lecturing**	**Written exam**	28.A
	9.2	Fertilization & cleavage implantation & blastocysts	- Describe the phases of the Fertilization process. - Know the process of implantation -Identify the meaning of blastocyst	K K K	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A &B
	9.3	Cardiovascular System Lab	Demonstrate the chambers, features, great vessels and valves of the heart	S	Face to face			Written exam	28.A
	10.1	Digestive System 1	- Describe the structure and function Oral cavity and pharynx -Know the structure and function of Esophagus and stomach	K K	Face to face		Synchronous Lecturing	Written exam	28.A
	10.2	Bilaminar disc	- Define the bilaminar disc and its	K	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online	28.A &B

			significance for the implantation during the second week of fetal development. -Describe the formation of the bilaminar germ disc and the amniotic cavity.	K				activities and assignments	
	10.3	Respiratory system Lab	- Recognize the organs of respiratory system -Demonstrate different part of each organ	S S	Face to face			Written exam	28.A
	11.1	Digestive System 2	- Describe the structure and function of Small and Large intestine -Know the structure and function of Liver and pancreas	K K	Face to face		Synchronous Lecturing	Written exam	28.A
	11.2	Trilaminar germ disc	Describe the formation of trilaminar germ disc.	K	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A &B
	11.3	Digestive System Lab 1	Recognize the structure of Oral cavity and pharynx Esophagus and stomach	S S	Face to face			Written exam	28.A
	12.1	Renal system 1	Describe the structure and function of the kidney, Ureter, Urinary bladder and Urethra.	K	Face to face		Synchronous Lecturing	Written exam	28.A

	12.2	Derivatives of the ectoderm and neural tube	Understand and list derivatives of ectoderm	S	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A &B
	12.3	Digestive System Lab 2	demonstrate the structure of intestine, liver and pancreas	S	Face to face			Written exam	28.A
	13.1	Nervous system 1	- Overview of the CNS &PNS - Describe the gross anatomical features of the spinal cord - Explain the function of the spinal cord as a conduction pathway and a reflex center.	K K S	Face to face		Synchronous Lecturing	Written exam	28.A
	13.2	Derivatives of the mesoderm and endoderm	Understand and list derivatives of mesoderm and endoderm	S	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A &B
	13.3	Renal system Lab	Demonstrate the structure of the kidney, Ureter, Urinary bladder and Urethra	S	Face to face			Written exam	28.A
	14.1	Nervous system 2	- Distinguish the main parts of the brain Recognize major lobes and functional areas of the cortex	K S	Face to face		Synchronous Lecturing	Written exam	28.A

	14.2	Fetal period-congenital malformations	Describe the normal and pathological development of fetus	K S	Blended	Moodle	Asynchronous Lecturing	Written exam/ Online activities and assignments	28.A &B
	14.3	Nervous system Lab	Identify major lobes and functional areas of the cortex	S	Face to face			Written exam	28.A
** K: Knowledge, S: Skills, C: Competency									

24. Evaluation Methods:

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

Evaluation Activity	Mark	Topic(s)	SLOs	Descriptors**	Period (Week)	Platform
Midterm exam	40	Introduction to anatomy Skeletal system 1/Skeletal system 2/Skeletal system 3/ Skeletal system 4/ Muscular System 1/ Muscular System 2 / Muscular System 3/ Muscular System 4 /Cardiovascular System 1/ Cardiovascular System 2	1.1/ 1.2/ 2.1/ 2.2/ 3.1/ 3.2/ 4.1/ 4.2/ 5.1/ 5.2/ 6.1/ 6.2/ 7.1/ 7.2	K S	8th week	Paper-based exam
Practical exam	15	Appendicular system Lab 1/ Appendicular system Lab 2/ Axial skeleton Lab/ Muscles Lab 1/ Muscles Lab 2/ Muscles Lab 3/ Muscles Lab 4	1.3/2.3/3.3/4.3/5.3/6.3/ 7.43/9.3/10.3/11.3/12. 3/13.3/14.3	C	15th -16th week	Paper-based exam
Online activities	5	All blended topics		K S	1st-14th week	Moodle
Final exam	40	Respiratory system/ Fertilization & cleavage implantation & blastocysts/ Digestive System 1/ Bilaminar disc /Digestive System 2/ Trilaminar germ disc/ Renal system 1/ Derivatives of the ectoderm and neural tube/ Nervous system 1	9.1/ 9.2/ /10.1/ 10.2/ /11.1/ 11.2/ /12.1/ 12.2/ /13.1/ 13.2/ 14.1/ 14.2	K S C	15th -16th 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's Anatomy for Students: 4th edition
Clinically oriented anatomy .7th Edition Keith Moore
Langman's Medical Embryology 14th Edition

B- Recommended books, materials, and media:

Web based resources: https://youtube.com/playlist?list=PLIDhP5E2cVJ0PYIPFIh9hfnhPdhpuBJtg&feature=shared

28. Additional information:

Name of Course Coordinator: ---------- Date:---------- Signature: ----------

Head of Department: ---------- Signature: ----------

Head of Curriculum Committee/Faculty: ---------- Signature:

Dean:---------- Signature: ----------