Syllabus*: Anatomy and Embryology

Code (2219011171)

Second Semester 2023/2024

COURSE INFORMATION	
Course Name: Anatomy and Embryology **Semester:** Second Semester **Department:** Department of Basic Dental Sciences **Faculty:** Dentistry	**Course Code:** 2219011171 **Section:** 1 **Core Curriculum**: Doctor of Dental Surgery (DDS)
Day(s) and Time(s): Mon./Wed. 10:00 – 11:30 **Classroom:** **101 صيدلة**	**Credit Hours:** 4 (1 Lab, 3 Theory) **Prerequisites**: None

COURSE DESCRIPTION

This course introduces students to normal anatomy of the main regions (systems) of the human body: thorax, abdomen and pelvis, back and limbs, and it helps students to integrate related concepts and to understand the relationship between anatomical structures and their functions and its clinical aspects and it enable students to effective use of anatomical terminology confidently. It also introduces student to all stages of human development from fertilization to birth and related abnormalities.

DELIVERY METHODS

The course will be delivered through a combination of active learning strategies. These will include:

- PowerPoint lectures and active classroom based discussion.
- Video lectures
- E-learning resources: e-reading assignments and practice quizzes through Microsoft Teams
- Lab sessions in the dissecting room showing plastinated and plastic models.

FACULTY INFORMATION	
Name and Academic Title:	**Dr. Heba Abedrabboh Ali (Assistant professor)** **Dr. Jihad Alzyuod (Associate professor)**
Office Location:	**Faculty of dentistry 3rd Floor**
Telephone Number:	
Email Address:	
Office Hours:	**Monday / Wednesday: 9-10** **Tuesday / Thursday: 10-11** *Please send an e-mail to (*heba_ali@hu.edu.jo or JihadA@hu.edu.jo *) to meet at any other time.*

REFERENCES AND LEARNING RESOURCES

- **Principles of Anatomy & Physiology, 13th edition, Tortora & Derricson, 2012 (ANATOMY MAIN REFERENCE)**

Suggested Additional Resources:

- **1. Clinical Anatomy for Medical Students By R.S. Snell.**
- **2. Before we are born By K.L. Moore and T.V.N. Persaud.**
- **3. Atlas of Human Anatomy By Frank H. Netter.**

STUDENT LEARNING OUTCOMES MATRIX*

Core Curriculum Learning Outcomes	Program Learning Outcomes	Course Objectives	Course Student Learning Outcomes	Assessment Method
Medical and dental knowledge	Demonstrate medical and dental knowledge of basic anatomical sciences	**Introduction to Human Anatomy:** Comprehend the anatomical terms, use them correctly, and comprehend the topographic and general anatomy of the regions of abdomen, pelvis, perineum thorax, upper and lower extremities and head & neck	1. Identify different anatomical position, body planes, terms of position, and regional terms. 2. identify body cavities, subdivisions & contents. 3. Levels of organization. 4. Demonstrate effective use of anatomical terminology confidently.	• Exams • Quizzes • "On-line' reading assignments • homework assignments
		Axial Skeleton I: Types and parts of bones General features of skull	1. Classify different types of bones and distinguish their general features, structure and function. 2. Outline the bones of axial skeleton. 3. Describe the general features of skull. 4. Introduce the bones of skull; sutures, fontanels & their significances.	• Exams • Quizzes • "On-line' reading assignments
		Axial Skeleton I: Mandible, Vertebral Column, Sternum and Ribs	1. Describe parts of mandible. 2. Describe the general features of vertebral column. 3. Describe the structure and significance of inter- vertebral discs. 4. Outline the typical parts of the vertebra. 5. Briefly describe main features of regional vertebrae, sacrum & coccyx. 6. Briefly describe the sternum and ribs	• Exams • Quizzes • "On-line' reading assignments • homework assignments
		Appendicular Skeleton I: Bones of upper limbs	1. Outline the bones of upper limb. 2. Describe the main features of clavicle, scapula & humerus. 3. Describe the features of ulna & radius. 4. Outline the general features and name of carpal bones. 5. Describe the features of metacarpal bones and phalanges.	• Exams • Quizzes • "On-line' reading assignments • homework assignments

		Appendicular Skeleton II: Bones of Lower Limb.	1. Outline the bones of lower limb. 2. Describe the main features of bones of hip: ilium, ischium, & pubis. 3. Describe the main features of femur & patella. 4. Describe the features of tibia & fibula. 5. Outline bones of foot and arches of foot	• "On-line" reading assignments • Term project
		Muscular System Recognize muscle groups, their actions and nerve supply	1. Outline the types of skeletal muscle. 2. Outline the nomenclature of skeletal muscles. 3. Outline the type of actions of skeletal muscles.	• Exams • Quizzes • "On-line' reading assignments
		Muscles of Thoracic, abdominal & Pelvic Walls	1. Outline the muscles of thoracic wall. 2. Describe the diaphragm. 3. Outline the muscles of anterior abdominal wall. 4. Briefly describe the perineum.	
		Body Joints Identify the structure, function, and movements of the main joints in the human body	1. Identify the types of joints of the body. 2. Outline the structure and types of synovial joints. 3. Outline the joints of upper limb (shoulder, elbow, radio-ulnar, wrist, and joints of hand). 4. Outline the joints of lower limb (hip, knee. ankle, and joints of foot), their movements and the muscles involved in producing these movements.	
		Circulatory System I	1. Outline the parts of circulatory system. 2. Briefly describe the pericardium. 3. Briefly describe the heart (location, chambers, valves, blood supply).	
		Circulatory System II	1. Outline the great vessels of heart. 2. Outline the branches of aorta. 3. Outline the vessels of head & neck. 4. Outline the blood vessels of upper & lower limbs.	
		Respiratory System I	1. Outline the parts of respiratory system. 2. Outline the structure of nasal cavity, nasopharynx, paranasal sinuses. 3. Outline the larynx.	
		Respiratory System II	1. Briefly describe the trachea & bronchi. 2. Briefly describe the pleural sac. 3. Briefly describe the lungs.	
		Digestive System I	1. Outline the parts of digestive system. 2. Describe briefly the mouth & esophagus.	

			3. Outline the location, parts, openings, and borders of stomach, & peritoneal folds. 4. Introduce parts & functions of small bowel.	
		Digestive System II	1. Outline the parts, location and function of large intestine. 2. Outline the associated digestive glands (salivary glands, pancreas, liver & gall bladder and their functions).	
		Urinary System	1. Outline parts of urinary system. 2. Briefly describe the location, gross structure & blood vessels of kidney. 3. Briefly outline the ureter, urinary bladder & male & female urethra.	
		Male Genital System	Outline the parts & functions of male genital system.	
		Female Genital System	Outline the parts & functions of female genital system.	
		Nervous System	1. Outline the general structure of nervous system 2. Classify the nervous system 3. Outline parts of CNS 4. Outline the general features of the brain and spinal cord. 5. Describe parts of the PNS 6. Classifies the ANS and its function 7. Briefly describe the CSF and outline its function	
Medical and dental knowledge	Demonstrate medical and dental knowledge of basic Embryological sciences	**General Embryology I**	1. Embryological terms (sperm, Oocyte, embryo, Zygote, implantation, Conception, blastomeres, Morula, blastocyst, Conceptus primordium, Foetus, abortion, labour). 2. Outline the process of spermatogenesis. 3. Outline the process of Oogenesis. 4. Describe the process of fertilization.	
		General Embryology II	1. Describe zygote cleavage, formation of blastocyst & implantation (1st week of development). 2. Describe the 2nd week of development.	
		General Embryology III	1. Briefly describe the 3rd week of development of embryo. 2. Briefly describe the development of embryo from 4th – 8th weeks. 3. Describe foetal membranes & placenta. 4. Describe causes of congenital anomalies. 5. Outline procedures & techniques used to assess foetal status.	

*يـ تعـ يلها وفقا لـ ا يـ تـ يـ ه لـ مـ اق الـ مع الـ لـ ة والقـ الـ عـ ي

ACADEMIC SUPPORT

It is The Hashemite University policy to provide educational opportunities that ensure fair, appropriate and reasonable accommodation to students who have disabilities that may affect their ability to participate in course activities or meet course requirements. Students with disabilities are encouraged to contact their instructor to ensure that their individual needs are met. The University through its Special Need section will exert all efforts to accommodate for individual's needs.

Special Needs Section: ???
Tel: ???
Location: ???
Email: ???

COURSE REGULATIONS

Participation

Class participation and attendance are important elements of every student's learning experience at The Hashemite University, and the student is expected to attend all classes. A student should not miss more than 15% of the classes during a semester. *Those exceeding this limit of 15% will receive a failing grade regardless of their performance*. It is a student's responsibility to monitor the frequency of their own absences. **Attendance record begins on the first day of class irrespective of the period allotted to drop/add and late registration. It is a student's responsibility to sign-in; failure to do so will result in a non-attendance being recorded.**

In exceptional cases, the student, with the instructor's prior permission, could be exempted from attending a class provided that the number of such occasions does not exceed the limit allowed by the University. The instructor will determine the acceptability of an absence for being absent. A student who misses more than 25% of classes and has a valid excuse for being absent will be allowed to withdraw from the course.

Plagiarism

Plagiarism is considered a serious academic offence and can result in your work losing marks or being failed. HU expects its students to adopt and abide by the highest standards of conduct in their interaction with their professors, peers, and the wider University community. As such, a student is expected not to engage in behaviours that compromise his/her own integrity as well as that of the Hashemite University.

Plagiarism includes the following examples and it applies to all student assignments or submitted work:

- **Use of the work, ideas, images or words of someone else without his/her permission or reference to them.**

- **Use of someone else's wording, name, phrase, sentence, paragraph or essay without using quotation marks.**
- **Misrepresentation of the sources that were used.**

<u>The instructor has the right to fail the coursework or deduct marks where plagiarism is detected</u>

Late or Missed Assignments

In all cases of assessment, students who fails to attend an exam, class project or deliver a presentation on the scheduled date without prior permission, and/or are unable to provide a medical note, will automatically receive a fail grade for this part of the assessment.

- Submitting a term paper on time is a key part of the assessment process. Students who fail to submit their work by the deadline specified will automatically receive a 10% penalty. Assignments handed in more than 24 hours late will receive a further 10% penalty. Each subsequent 24 hours will result in a further 10% penalty.
- In cases where a student misses an assessment on account of a medical reason or with prior permission; in line with University regulations an incomplete grade for the specific assessment will be awarded and an alternative assessment or extension can be arranged.

Student Complaints Policy

Students at The Hashemite University have the right to pursue complaints related to faculty, staff, and other students. The nature of the complaints may be either academic or non-academic. For more information about the policy and processes related to this policy, you may refer to the students' handbook.

COURSE ASSESSMENT

Course Calendar and Assessment

Students will be graded through the following means of assessment and their final grade will be calculated from the forms of assessment as listed below with their grade weighting taken into account. The criteria for grading are listed at the end of the syllabus

Assessment	Grade Weighting	Deadline Assessment
Midterm Exam	40%	Week 8 / one hour
Practical	20%	Week 13
Final Exam	40%	Week 15-16 / determine by university

Description of Exams

Test questions will predominately come from material presented in the lectures. Semester exams will be conducted during the regularly scheduled lecture period. Exam will consist of a combination of multiple choice, short answer, match, true and false and/or descriptive questions.

Homework: Will be given for each chapter, while the chapter in progress you are supposed to work on them continuously and submit in next lecture when I finish the chapter.

You are also expected to work on in-chapter examples, self-tests and representative number of end of chapter problems. The answers of self-tests and end of chapter exercises are given at the end of the book.

Quizzes: Unannounced quizzes will be given during or/and at the end of each chapter based upon the previous lectures. It will enforce that you come prepared to the class.

No make-up exams, homework or quizzes will be given. Only documented absences will be considered as per HU guidelines.

Grades are not negotiable and are awarded according to the following criteria*:

Letter Grade	Description	Grade Points
A+	Excellent	4.00
A		3.75
A-		3.50
B+	Very Good	3.25
B		3.00
B-		2.75
C+	Good	2.50
C		2.25
C-		2.00
D+	Pass	1.75
D	Pass	1.50
F	Fail	0.00
I	Incomplete	-

* العديد من البرامج (المدارس/دراسات عليا)

WEEKLY LECTURE SCHEDULE AND CONTENT DISTRIBUTION

Introduction to Human Anatomy (anatomical terminology)	Week 1	1 hour lecture
Classification of Bones + Axial skeleton I (Skull)	Week 1	1 hour lecture
Axial Skeleton II: Mandible, Vertebral Column, Sternum & Ribs	Week 2	1 hour lecture
Appendicular Skeleton I: Bones of Upper Limb	Week 2	1 hour lecture
Appendicular Skeleton II: Bones of lower Limb	Week 3	1 hour lecture
Body Joints	Week 3	1 hour lecture
Muscles & Muscles of head & neck	Week 4	1 hour lecture
Muscles of upper Limb	Week 4	1 hour lecture
Muscles of lower Limb	Week 5	1 hour lecture
Muscles of Thoracic, abdominal & Pelvic Walls	Week 5	1 hour lecture
Circulatory System I	Week 6	1 hour lecture
Circulatory System II	Week 6	1 hour lecture
Respiratory System I	Week 7	1 hour lecture
Respiratory System II	Week 7	1 hour lecture
Digestive System I	Week 8	1 hour lecture
Digestive System II	Week 8	1 hour lecture
Nervous System I	Week 9	1 hour lecture
Nervous System II	Week 9	1 hour lecture
Urinary System	Week 10	1 hour lecture
Male Genital System	Week 10	1 hour lecture
Female Genital System	Week 11	1 hour lecture
General Embryology I	Week 11	1 hour lecture
General Embryology II	Week 12	1 hour lecture
General Embryology III	Week 12	1 hour lecture

Human Anatomy and Embryology Laboratory Syllabus

Lab / Week	Topic
1	Introduction
2	Axial Skeleton I: Skull + mandible + vertebral column + ribs + sternum
3	Axial Skeleton II: Skull + mandible + vertebral column + ribs + sternum
4	Appendicular Skeleton I: Bones of Upper Limb I
5	Appendicular Skeleton II: Bones of lower Limb II
6	Muscles, vessels and nerves of upper limb
7	Muscles, vessels and nerves of lower limb
8	Midterm Exam
9	Cardiovascular system
10	Nervous system
11	Digestive system
12	Respiratory system
13	Urinary, male and female genital systems

ASSESSMENT RUBRICS

Assessment Rubrics to be determined by the department. Add samples below.

Classroom Participation: Assessment Criteria					
Criteria	**Quality**				**Score**
	Excellent (4 points)	**Good (3 points)**	**Satisfactory (2 points)**	**Needs Improvement (1 points)**	
Degree to which student integrates course readings into classroom participation	- often cites from readings; - uses readings to support points; - often articulates "fit" of readings with topic at hand.	-occasionally cites from readings; - sometimes uses readings to support points; -occasionally articulates "fit" of readings with topic at hand **.**	-rarely able to cite from readings; - rarely uses readings to support points; - rarely articulates "fit" of readings with topic at hand	-unable to cite from readings; -cannot use readings to support points; cannot articulates "fit" of readings with topic at hand .	
Interaction / participation in classroom discussions	-always a willing participant, responds frequently to questions; - routinely volunteers point of view .	-often a willing participant, - responds occasionally to questions; - occasionally volunteers point of view .	-rarely a willing participant, - rarely able to respond to questions; - rarely volunteers point of view .	-never a willing participant., - never able to respond to questions; - never volunteers point of view .	
Interaction /participation in classroom learning activities	-always a willing participant; -acts appropriately during all role plays; - responds frequently to questions; - routinely volunteers point of view.	-often a willing participant; -acts appropriately during role plays; - responds occasionally to questions; -occasionally volunteers point of view.	-rarely a willing participant. -occasionally acts inappropriately during role plays; - rarely able to respond to direct questions; -rarely volunteers point of view .	-never a willing participant - often acts inappropriately during role plays;, - never able to respond to direct questions; - never volunteers point of view.	
Demonstration of professional attitude and demeanor	-always demonstrates commitment through thorough preparation; - always arrives on time; - often solicits instructors' perspective outside class.	- rarely unprepared; rarely arrives late; - occasionally solicits instructors' perspective outside class **.**	-often unprepared; occasionally arrives late; - rarely solicits instructors' perspective outside class .	-rarely prepared; - often arrives late; -never solicits instructors' perspective outside class	

Classroom Participation: Oral Presentation										
Element	**Excellent**			**Satisfactory**			**Needs Improvement**			**Points**
	8	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**	
Organization	▪ There is a logical sequence of information. ▪ Title slide and closing slide are included appropriately.			▪ There is some logical sequence of information. ▪ Title slide and closing slides are included.			▪ There is little or no logical sequence of information. ▪ Title slide and/ or closing slides are not included.			
Slide Design (text, colors, background, illustrations, size, titles, subtitles)	▪ Presentation is attractive and appealing to viewers.			▪ Presentation is somewhat appealing to viewers.			▪ Little to no attempt has been made to make presentation appealing to viewers.			
Content	▪ Presentation covers topic completely and in depth. ▪ Information is clear, appropriate, and accurate.			▪ Presentation includes some essential information. ▪ Some information is somewhat confusing, incorrect, or flawed.			▪ Presentation includes little essential information. ▪ Information is confusing, inaccurate, or flawed.			
Language	▪ Spelling, grammar, usage, and punctuation are accurate ▪ Fluent and effective			▪ There are minor problems in spelling, grammar, usage, and/or punctuation.			▪ There are persistent errors in spelling, grammar, usage, and/or punctuation. ▪ Less or not fluent and effective.			
Delivery	▪ Ideas were communicated with enthusiasm, proper voice projection and clear delivery. ▪ There was sufficient eye contact with audience. ▪ There were sufficient use of other non-verbal communication skills. ▪ Appropriate delivery pace was used.			▪ There was some difficulty communicating ideas due to voice projection, lack of preparation, incomplete work, and/or insufficient eye contact. ▪ Insufficient use of non-verbal communication skills. ▪ Delivery pace is somewhat appropriate.			▪ There was great difficulty communicating ideas due to poor voice projection, lack of preparation, incomplete work, and/or little or no eye contact. ▪ No use of non verbal communication skills. ▪ Inappropriate delivery pace was used.			

Interaction with Audience	▪ Answers to questions are coherent and complete. ▪ Answers demonstrate confidence and extensive knowledge.	▪ Most answers to questions are coherent and complete. ▪ Answers somehow demonstrate confidence and extensive knowledge.	▪ Answers to questions are neither coherent nor complete. ▪ Is tentative or unclear in responses.	
	Total Score (Y x 5/16) =			

- اجراء العديلات الاساسة حسب القرر والمعلومات الدلة العمة وتوظيف أنواع العلم بوضوح (الوني، مدمج، وجاهي) ونماذج العلم (نظة العلم الجاهي الى الألوني ونظة العلم الامم الى غ الامم) الي سدف يتاعها أثناء تر الاقات و ايائ مع نظ الادماج الار الها في اب مل العلم العالي رقم مع/1427 .