



**The University of Jordan**

**Accreditation & Quality Assurance Center**

**Course Syllabus**

**Anatomy and Embryology**

<b>1. Course title:</b>
• Anatomy and Embryology
<b>2. Course number:</b>
• 0502109
<b>3. Credit hours (theory, practical):</b>
• 4 (3 Theory, 1 Practical)
<b>Contact hours (theory, practical)</b>
• Theory: 3 , Practical: 1
<b>4. Prerequisites:</b>
• Biology 0304102
<b>5. Program title:</b>
• MD, DDS
<b>6. Program code:</b>
• 05
<b>7. Awarding institution:</b>
• The University of Jordan
<b>8. Faculty:</b>
• School of Medicine
<b>9. Department:</b>
• Anatomy and Histology
<b>10. Level of course:</b>
• 1st year
<b>11. Year of study and semester (s):</b>
• 2022/2023 Second Semester
<b>12. Final Qualification:</b>
• MD, DDS
<b>13. Other department (s) involved in teaching the course:</b>
• None
<b>14. Language of Instruction:</b>
• English
<b>15. Date of production:</b>
• 21/2/2023
<b>16. Course Coordinator:</b>
• <u>Dr. Ahmed Salman</u>

Office number Office phone 23427 Email: Ahmed.salman@ju.edu.jo		
<b>17. Other instructors:</b>		
<ul style="list-style-type: none"> <li>• Dr. Maha El Beltagy</li> </ul>		
<b>18. Course Description:</b>		
<ul style="list-style-type: none"> <li>• <u>Gross Anatomy</u> <ul style="list-style-type: none"> <li>- The course is designed to provide students with clear and detailed concepts of general anatomy.</li> <li>- General overview of the upper and lower limbs.</li> <li>- Introduction to thorax, abdomen and their main structures.</li> </ul> </li> <li>• <u>Embryology:</u> <ul style="list-style-type: none"> <li>- The course is designed to provide students with clear and detailed concepts of general embryology .</li> <li>- 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.</li> <li>- By the end of the course ,students will acquire the ability to list derivatives of ectoderm , mesoderm and endoderm.</li> </ul> </li> </ul>		
<b>19. aims and outcomes:</b>		
<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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 &amp; nerve supply and the function of each structure.</li> <li>• Furthermore, the student must learn the major phases of fertilization, implantation, and fetal development.</li> </ul>		
<b>20. Topic Outline and Schedule:</b>		
Week	Content	Outcomes

1	<ul style="list-style-type: none"> <li>• <u>Anatomy:</u> Introduction to anatomy and bones of the upper limb.</li> <li>• <u>Embryology:</u> Male genital system</li> </ul>	<ul style="list-style-type: none"> <li>• Define anatomical position, planes, and directional terms.</li> <li>• Identify and describe bones of the upper limb.</li> <li>• Distinguish anatomy of the male reproductive system (parts, function and neurovascular supply).</li> </ul>
2	<ul style="list-style-type: none"> <li>• <u>Anatomy:</u> Scapular, Pectoral regions and Axilla.</li> <li>• <u>Embryology:</u> Female reproductive system</li> </ul>	<ul style="list-style-type: none"> <li>• Identify muscles of pectoral and scapular regions, (actions and nerve supply).</li> <li>• Locate axilla, its boundaries and contents.</li> <li>• Distinguish anatomy of the female reproductive system (parts, function and neurovascular supply).</li> </ul>
3	<ul style="list-style-type: none"> <li>• <u>Anatomy:</u> Axilla and Brachial plexus.</li> <li>• <u>Embryology:</u> Gametogenesis (Spermatogenesis)</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the brachial plexus, its formation and region of supply.</li> <li>• Understand the process of sperm formation and maturation.</li> </ul>
4	<ul style="list-style-type: none"> <li>• <u>Anatomy:</u> Arm compartments.</li> <li>• <u>Embryology:</u> Gametogenesis (Gametogenesis).</li> </ul>	<ul style="list-style-type: none"> <li>• Arm muscles nerves, and blood vessels</li> <li>• Understand the process of oocyte formation and maturation.</li> </ul>
5	<ul style="list-style-type: none"> <li>• <u>Anatomy:</u> Cubital fossa and compartments of the forearm.</li> <li>• <u>Embryology:</u> First week of development.</li> </ul>	<ul style="list-style-type: none"> <li>• Recognize boundaries and contents of the cubital fossa.</li> <li>• Describe muscles, nerves, and blood vessels of the forearm</li> <li>• Understand the Ovarian Cycle, ovulation and its related changes.</li> </ul>
6	<ul style="list-style-type: none"> <li>• <u>Anatomy:</u> The hand and joints of upper limb.</li> <li>• <u>Embryology:</u> Fertilization &amp; cleavage implantation &amp; blastocysts</li> </ul>	<ul style="list-style-type: none"> <li>• Describe muscles, nerves, and blood vessels of the hand</li> <li>• Explain the anatomy, type of joint, articulations and actions of shoulder, elbow.</li> <li>• Describe the phases of the Fertilization process.</li> <li>• Describe the process of</li> </ul>

		<p>implantation</p> <ul style="list-style-type: none"> <li>Identify the meaning of blastocyst.</li> </ul>
7	<ul style="list-style-type: none"> <li><u>Anatomy:</u> Bones of the lower limbs.</li> <li><u>Embryology:</u> Bilaminar disc.</li> </ul>	<ul style="list-style-type: none"> <li>Describe the bones of the lower limbs.</li> <li>Define the bilaminar disc and its significance for the implantation during the second week of fetal development.</li> </ul>
8	<ul style="list-style-type: none"> <li><u>Anatomy:</u> Gluteal muscles lumbar plexus.</li> <li><u>Embryology:</u> Bilaminar germ disc.</li> </ul>	<ul style="list-style-type: none"> <li>Describe muscles, nerves, and blood vessels of the gluteal region.</li> <li>Describe the formation of the bilaminar germ disc and the amniotic cavity.</li> </ul>
9	<ul style="list-style-type: none"> <li><u>Anatomy:</u> Thigh anterior and medial compartments, femoral triangle</li> <li><u>Embryology:</u> Trilaminar germ disc.</li> </ul>	<ul style="list-style-type: none"> <li>Describe muscles, nerves, and blood vessels of the anterior and medial compartments of the thigh</li> <li>Describe the formation of trilaminar germ disc.</li> </ul>
10	<ul style="list-style-type: none"> <li><u>Anatomy:</u> Posterior compartment of thigh and popliteal fossa.</li> <li><u>Embryology:</u> Derivatives of the ectoderm and neural tube.</li> </ul>	<ul style="list-style-type: none"> <li>Describe muscles, nerves, and blood vessels of the posterior compartment of the thigh.</li> <li>Understand and list derivatives of ectoderm.</li> </ul>
11	<ul style="list-style-type: none"> <li><u>Anatomy:</u> Leg muscles compartments.</li> <li><u>Embryology:</u> Derivatives of the mesoderm and endoderm.</li> </ul>	<ul style="list-style-type: none"> <li>Describe muscles in each compartment of the leg.</li> <li>Understand and list derivatives of mesoderm and endoderm.</li> </ul>
12	<ul style="list-style-type: none"> <li><u>Anatomy:</u> Thoracic wall.</li> </ul>	<ul style="list-style-type: none"> <li>Outline thoracic wall and its basic structures of the: Bones, muscles, vessels, nerves and joints.</li> <li>Describe the diaphragm, its shape, nerve supply, openings and function.</li> </ul>
13	<ul style="list-style-type: none"> <li><u>Anatomy:</u> Lungs and Pleura; Heart and Pericardium.</li> <li><u>Embryology:</u> Derivatives of the mesoderm</li> </ul>	<ul style="list-style-type: none"> <li>Describe the lungs, their lobes and fissures, relations, blood and nerve supply and side identification.</li> <li>Understand the structure of the pleura and its nerve supply.</li> </ul>

	and endoderm.	<ul style="list-style-type: none"> <li>• Distinguish the external and internal features of the heart.</li> <li>• Explain the conducting system of the heart.</li> <li>• Understand the structure of the pleura and its nerve supply.</li> <li>• Understand and list derivatives of ectoderm.</li> </ul>
14	<ul style="list-style-type: none"> <li>• <u>Anatomy</u>: Mediastinum and large vessels and nerves of the thorax.</li> <li>• <u>Embryology</u>: Fetal period- congenital malformations.</li> </ul>	<ul style="list-style-type: none"> <li>• Outlines the contents and the divisions of the Mediastinum.</li> <li>• Distinguish major vessels and nerves present within the thoracic cavity.</li> <li>• Describe the normal and pathological development of fetus.</li> </ul>
15	<ul style="list-style-type: none"> <li>• <u>Anatomy</u>: Abdominal wall, Inguinal canal and peritoneum.</li> <li>• <u>Embryology</u>: Placenta</li> </ul>	<ul style="list-style-type: none"> <li>• Distinguish basic structures of the anterior and posterior abdominal wall.</li> <li>• Describe function and nerve supply of muscles of the anterior and posterior abdominal walls.</li> <li>• Understand the Inguinal canal, its walls, functions, mechanics and inguinal hernia as a clinical case.</li> <li>• Explain the general arrangement of the peritoneum, relationships, nerve supply and function.</li> <li>• Describe the anatomy and physiology of the placenta.</li> </ul>
16	<ul style="list-style-type: none"> <li>• <u>Anatomy</u>: Gastrointestinal tract(GIT).</li> <li>• <u>Embryology</u>: Fetal membranes.</li> </ul>	<ul style="list-style-type: none"> <li>• Understand the general arrangement of abdominal viscera.</li> <li>• Describe a major and accessory structures of GIT, their location(Esophagus, stomach, small and large intestines, Liver)</li> <li>• Identify major blood vessels and nerves of GIT.</li> <li>• Describe the formation and progression of the development of the fetal membranes.</li> </ul>

## 21. Teaching Methods and Assignments:

- Development of ILOs is promoted through the following teaching and learning methods:
  - Small Group discussions.
  - Group presentations.
  - Student demonstration activities (class presentations and practical sessions demonstrations).
  - Blended Learning + Flipped Learning.

## **22. Evaluation Methods and Course Requirements:**

- Midterm Exam
- Final Exam

## **23. Course Policies:**

- Attendance policies:
  - Students are expected to attend all class sessions as listed on the course calendar.
  - Students are not allowed to be absent for more than 15% of the credit hours of the course.
  - All students are required to wear a lab coat during the laboratory session.
- Absences from exams and handing in assignments on time:
  - Make-up appeals are considered only for students who provide documentation of a compelling reason for missing the exam.
- Health and safety procedures:
  - College members and students must at all times, conform to health and safety rules and procedures.
- 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 class 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.
- Grading policy:
  - Grade-point average according to grading policy at University of Jordan.
- Available university services that support achievement in the course:

- Internet database at the University of Jordan the University of Jordan library.

## 24. Required equipment:

- Formalin preserved human cadavers and body parts.
- Plastinated human cadavers and body parts.
- Plastic models

## 25. References:

- Required book (s), assigned reading and audio-visuals:
  - Snell's Clinical Anatomy by Regions 10th Edition
  - Gray's Anatomy for Students 4th Edition
- Recommended books, materials, and media:
  - Principles of Anatomy and Physiology.
  - Grant's atlas of anatomy.

## 26. Additional information:

- Name of Course Coordinator: Ahmed Salman  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_
- Head of curriculum committee/ Department: \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_
- Head of Department: \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_
- Head of curriculum committee/Faculty: \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_
- Dean: \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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Head of Department Assistant.  
Dean for Quality Assurance.  
Course File.