University: Damanhour **Faculty**: Veterinary Medicine
Department: Anatomy and Embryology

General Anatomy and Embryology Course Specifications (2012-2013)

Program(s) on which the course is given: BVSc
Department offering the program: ---
Department offering the course: Anatomy and Embryology
Major or Minor element of programs: Major
Academic year /Level: 2nd Year 1st Semester
Date of specification approval:

A. BASIC INFORMATION

Title: General Anatomy and Embryology **Code**: 2AANA
Hours:
Lectures 3 hrs/week **Practical** 3 hrs/week **Total** 90 hrs (15 Weeks)

B. PROFESSIONAL INFORMATION

1. Overall aims of the course:
This course provides the ground knowledge and ability to:

- The basic background about the structure components of head, neck and trunk of the domestic animals.
- Basic knowledge about the growth anatomical features of nervous system, cardiovascular system and lymphatic system of the domestic animals
- Provides students the ability to compare each organ and / or. Structures of the domestic animals.

2. Intended Learning Outcomes (ILOs) of the Course:
By the end of this course, students should be able to recognize:

a. Knowledge and Understanding:

a1 Understand the skeletal and muscular component of the head, neck and trunk
a2 Understand the typical structures of the central nervous system, peripheral nervous system and autonomic nervous system
a3 Understand the typical structure of the cardiovascular system and lymphatic system of the domestic animals

b. Intellectual Skills: The student should be able to

b1 The ability to analyze the diversity of knowledge in the term of growth anatomical characteristics of each organ and/or structure
b2 The ability to distinguish with evidence and confidence characteristic features of each organ and / or structures in each animal class.
b3 Relate structure-functions relation of those organs system components.

c. Professional and Practical Skills: The student will be qualified in

c1 Recognize the anatomical techniques suitable for preserving each organ and / or structure.
c2 Identify and compare the organs in different domestic animal
c3 Distinguish between the normal an abnormal organ and / or structure.

d. General and Transferable Skills:

d1 The ability to use simple word and IT skills (i.e., data processing, software, internet, and multimedia) and the library to find information
d2 The ability to be self-motivated learners and responsive to feedback.
d3 Working in team (i.e., sharing presentations and discussions and solving problem).
d4 Enhancement of research capability by working in independent projects.

3. Contents:

Lecture

Topic	No. of hours	Lectures	Practical
Nervous system- gross anatomical features of the brain	2	2	0
Nervous system- gross anatomical features of the brain	2	2	0
Anatomy of the cranial nerves	2	2	0
Anatomy of the spinal cord, meninges and cerebrospinal fluid	2	2	0
Anatomy of the peripheral nerves	2	2	0
Sympathetic and parasympathetic parts of autonomic nervous system	2	2	0
Review and discussion of student independent semester work	2	2	0
General and comparative anatomy of heart	2	2	0
Branches of the thoracic aorta and pulmonary circulation	2	2	0
Arterial supply and venous drainage of the head and neck	2	2	0
Collateral branches of the abdominal aorta	2	2	0
Arterial supply of pelvic organs and tributaries of caudal vena cava	2	2	0
Main lymph centers and vessels of the head and neck	2	2	0
Main lymph centers and vessels of the trunk and limbs ▪ cord scrotum, prepuce and penis	2	2	0
Guidance of students for final written, oral and practical examinations	2	2	0
Total	**30**	**30**	**0**

Practical

Topic	No. of hours	Lectures	Practical
Gross anatomical and comparative features of the skull	3	0	3
General and comparative features of the mandible and hyoid bone	3	0	3
General and comparative features of the cervical vertebrae	3	0	3
General and comparative features of the thoracic, lumbar vertebrae as well as ribs and sternum	3	0	3
Muscle groups of the head- student independent dissection	3	0	3
Muscle groups of the neck - student independent dissection	3	0	3
Muscle groups the thoracic and abdominal wall - student independent dissection	3	0	3
Review and training on practical examination	3	0	3
Gross anatomy of brain, spinal cord and meninges	3	0	3
Course and branches of cranial and peripheral nerves	3	0	3

General and comparative features of the heart	3	0	3
Arterial and venous drainage of the head and neck	3	0	3
Arterial and venous drainage of the trunk	3	0	3
Main lymph nodes and lymph vessels of the animal body	3	0	3
Preparation for the final practical examination	3	0	3
Total	**45**	**0**	**45**

4. Teaching and Learning Methods:

4.1 Lectures

4.2 Practical (tutor presentation followed by students' small group sessions).

4.3 Independent (Laboratory and home assignments supervised by tutor):

4.3.a Writing reports/assignments.

4.3.b Preparation of colored posters and slide presentations.

4.3.c Preparation of bones.

4.3.d Group discussion.

4.4 Computer courseware for independent study can bee accessed at the education center beside recently developed web courseware

Method for disabled students: (no special arrangements are available now, however those student can consult our stuff for help)

5. Student Assessment Methods:

	Exam	
5.1	Written Mid-term	To assess knowledge and understanding.
5.2	Written Final-term	To assess knowledge and understanding
5.3	Practical Final-term	To assess professional and practical skills.
5.4	Oral Final-term	To assess intellectual skills, understanding of topics and ways of thinking in resolving problems

Assessment Schedule (in each semester):

	Exam	**Week**
Assessment 1	Written Mid-term	8th
Assessment 2	Written Final-term	15th
Assessment 3	Practical Final-term	15th
Assessment 4	Oral Final-term	15th

Weighing of assessments (in each semester):

	Exam	**1st Semester (%)**	**Total (%)**
Assessment 1	Written Mid-term	10	10
Assessment 2	Home and laboratory periodical	10	10
Assessment 3	Written Final-term	50	50
Assessment 4	Practical Final-term	15	15
Assessment 5	Oral Final-term	15	15
	Total	**100**	**100**

6. List of References:

6.1. Course Notes:

- Lecture notes (printed): anatomy of domestic animal I. by Prof. DR Ashraf Elsharby (2007)

6.2. Essential Books:

- Getty R., Sisson and Grosman (1975) the anatomy of domestic animals 5th edition W.B Saunders, Philadelphia (volume 1&2)

6.3. Recommended Books:

- Dyce, M.K., Sack, W.O.(2002) Wensing, C.j.G. Textbook of Veterinary Anatomy W. B.

Saunders C., Philadelphia

6.4. Periodicals, websites, ….. etc

7. Facilities Required for Teaching and Learning

- For Lecture: A large hall equipped with white board, data show and computer.
- For Laboratory sessions: dissection hall with bones, formalized animals cadavers, dissection materials, anatomical models, colored posters, charts, atlases, handouts and pamphlets.
- For small group discussions (75 students): Convenient hall equipped with white board, computer and video projector.
- Digital library, Internet and networking connections for easy access of online course materials and the recommended websites by our staff.

Course Coordinator: Prof. Dr. Ashraf Elsharaby

Head of Department: Prof. Dr. Ashraf Elsharaby

Date:

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Major or Minor element of programs: Major
Academic year /Level: 2nd Year 2nd Semester
Date of specification approval:

A. BASIC INFORMATION

Title: General Anatomy and Embryology **Code**: 2BANA
Hours:
Lectures 2 hrs/week **Practical** 3 hrs/week **Total** 75 hrs (15 Weeks)

B. PROFESSIONAL INFORMATION

1. Overall aims of the course:
This course provides the ground knowledge and ability to:

- The basic background about the origin and development of the mammalian organism from a single cell to a fully mature adult form
- Basic knowledge about the general embryology and special embryology
- Basic knowledge about congenital anomalies and morphological defects that are present at birth
- Basic knowledge about some selective topics about developmental biology

2. Intended Learning Outcomes (ILOs) of the Course:
By the end of this course, students should be able to recognize:
a. Knowledge and Understanding:

a1 Understand and explain the complexity of anatomy of mammals and birds
a2 Understand the origin, development, maturation and structure of gametes
a3 Understand cleavage, gastrulation, fetal membranes and placentation
a4 Understanding the differentiation and development of different body organs
a5 understanding congenital anomalies, stem cells, cloning and chimera and its important in gynecology and obstetrics
a6 understanding the growth structures of their selected area

b. Intellectual Skills: The student should be able to

b1 The ability to analyze the diversity of knowledge in the term of growth anatomical characteristics of each organ and/or structure
b2 The ability to distinguish with evidence and confidence characteristic features of each organ

and / or structures in each animal class

b3 Relate structure-functions relation of those organs system components

c. Professional and Practical Skills: The student will be qualified in

c1 Recognize the anatomical techniques suitable for preserving each organ and / or structure.

c2 Identify and compare the organs in different domestic animal

c3 identify and compare the organs in different avian species and in different fish species

c4 Distinguish between the normal an abnormal organ and / or structure.

d. General and Transferable Skills:

d1 The ability to use simple word and IT skills (i.e., data processing, software, internet, and multimedia) and the library to find information

d2 The ability to be self-motivated learners and responsive to feedback.

d3 Working in team (i.e., sharing presentations and discussions and solving problem).

d4 Enhancement of research capability by working in independent projects.

3. Contents:

Lecture

Topic	No. of hours	Lectures	Practical
Introduction of developmental biology	2	2	0
Gametogenesis	2	2	0
Fertilization and cleavage	2	2	0
Implantation, Gastrulation and derivatives of germ layers	2	2	0
Fetal membranes and placentation	2	2	0
Defects of events and locations in embryo development	2	2	0
Development of nervous system and eye	2	2	0
Development of upper digestive system	2	2	0
Development of lower digestive system & of respiratory system	2	2	0
Development of urinary system	2	2	0
Development of gonads and genital duct system	2	2	0
Common anomalies of the domestic animals	2	2	0
Selective topics of developmental biology (stem cells, cloning and chimera)	2	2	0
Student discussions and feedbacks	2	2	0
Guidance of students for final written, oral and practical examinations	2	2	0
Total	**30**	**30**	**0**

Practical

Topic	No. of hours	Lectures	Practical
Independent animal dissection: superficial thorax, ventral neck muscles and extrinsic muscle of thoracic limb	3	0	3
Independent animal dissection: intrinsic muscle of thoracic limb	3	0	3
Independent animal dissection: vessels and nerves of thoracic limb bones	3	0	3
Independent animal dissection: muscles of pelvic limb	3	0	3
Independent animal dissection: epaxial and hypoaxial muscle of	3	0	3

neck, thorax and abdominal muscles and vessels and nerves of neck.			
Independent animal dissection: thoracic wall and cavity, heart and autonomic nerves	3	0	3
Independent animal dissection: abdominal wall and inguinal structures, abdominal and peritoneal cavities and viscera, nerves and vessels	3	0	3
Independent animal dissection: pelvic diaphragm and viscera, abdominal and pelvic vessels and nerves	3	0	3
Independent carnivore dissection: pelvic limb vessels and nerves.	3	0	3
Independent animal dissection: superficial structures of head, oral cavity, pharynx and larynx, muscles of jaw, tongue and hyoid bones	3	0	3
Independent animal dissection: superficial nerves, head arteries and cervical structures	3	0	3
Collection of embryos and fetuses and gross dissection of fetuses	3	0	3
Revision of some slides and multimedia of embryology	3	0	3
Individual student discussion and examination	3	0	3
Individual student discussion and examination	3	0	3
Total	**45**	**0**	**45**

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Assessment Schedule (in each semester):

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Assessment 4	Oral Final-term	15th

Weighing of assessments (in each semester):

	Exam	2nd Semester (%)	Total (%)
Assessment 1	Written Mid-term	10	10
Assessment 2	Home and laboratory periodical	10	10
Assessment 3	Written Final-term	50	50
Assessment 4	Practical Final-term	15	15
Assessment 5	Oral Final-term	15	15
	Total	**100**	**100**

6. List of References:

6.1. Course Notes:

Lecture notes (printed): anatomy of domestic animal I. by

principles of developmental biology. by Prof. DR Ashraf Elsharby and DR Ahmed Saber (2009)

6.2. Essential Books:

Latshaw W.K Veterinary Developmental Anatomy. A clinically oriented approach. B.C Decker INC (1987).

6.3. Recommended Books:

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