**UNIVERSITY OF SARGODHA**

**DEPARTMENT OF ANIMAL SCIENCES**

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COURSE OUTLINE Spring 2020

Course Title: **Introduction to Veterinary Anatomy**

Course Code:ANSC-5106

Credit Hours: 3(2-1)

Instructor: **Dr. Imtiaz Hussain**

Email: **imtiaz.hussain@uos.edu.pk**

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| DESCRIPTION & OBJECTIVES |

Course will help to improve the knowledge of students about internal structures of livestock and they will be able to identify different organs and tissues of animals. Students will be able to identify important physiological aspects of livestock

The key objectives/outcomes of this course are;

* To impart basic and applied knowledge of Veterinary Anatomy.

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| INTENDED LEARNING OUTCOMES |

Students will be able to identify different anatomical structures of livestock. They will be able to differentiate between the animal species on the basis of internal structures. This course will provide a complete understanding of all systems according to their structural positioning in live animals. Approach of students towards therapeutic treatments and surgical procedures for different anomalies will become easy due to proper understanding of anatomical positions of different organs in the body of animals.

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| CONTENTS |

**Theory**

Anatomical terminology, classification and functions of skeleton; muscular and nervous system; skeletal muscles and their functions; muscle contraction; levers; neurons: receptors; the reflex arc; digestive system: the mouth, teeth, tongue, salivary glands, pharynx, esophagus, ruminant and non-ruminant, stomach, intestines, pancreas, liver and spleen; the peritoneum; respiratory system: the nostrils, nasal cavity, pharynx, larynx and trachea; pleura and lungs; urinary system: the kidneys, ureters, urinary bladder and urethra; genital system: male genital organs including scrotum, testes, spermatic cord, vesiculae seminalis, prostate, uterus masculinus, bulbourethra glands and the penis; female genital organs including ovaries, fallopian tubes, uterus, vagina, vulva and mammary glands; endocrine glands: hypophysis cerebri, epiphysis cerebri, thyroid, parathyroid, adrenal, pancreas, ovaries and testes; angiology study of heart pericardium and major arteries and veins; superficial lymph glands; anesthesiology: study of sense organs and the common integuments.

**Practical**

Identification of various bones, ligaments, tendons and their attachment to the bones of different domestic animals; form, structure and topographical study of various organs located in the thoracic, abdominal and pelvic cavities of different domestic animals.

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| READINGS |

* Frandson, R. D. 1975. Anatomy and Phsiology of Farm Animals. Lea and Febiger, Philadelphia, USA.
* Sisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA.
* Ankers R.M. and D.M. Denbow. 2008. Anatomy and Phsiology of Domestic Animals. Blackwell Publishing Ltd., UK.

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| COURSE SCHEDULE |
| **Weeks** | **Topic and Readings** | **Dates** |
| 1 | Definition of anatomy and their branches. Anatomical terminology. Osteological terminologySisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA. | 4-03-20205-03-20206-03-2020 |
| 2 | Classification and functions of skeleton Sisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA.Ankers R.M. and D.M. Denbow. 2008. Anatomy and Phsiology of Domestic Animals. Blackwell Publishing Ltd., UK. | 11-03-202012-03-202013-03-2020 |
| 3 | Muscular systemFrandson, R. D. 1975. Anatomy and Phsiology of Farm Animals. Lea and Febiger, Philadelphia, USA.Sisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA. | 18-03-202019-03-202020-03-2020 |
| 4 | Muscular systemAnkers R.M. and D.M. Denbow. 2008. Anatomy and Phsiology of Domestic Animals. Blackwell Publishing Ltd., UK.Sisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA. | 25-03-202026-03-202027-03-2020 |
| 5 | Skeletal muscles and their functionsMuscle contraction; levers; neurons: receptors; the reflex archttp://adamowen.hubpages.com/hub/The-Functions-of-MusclesSisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA. | 1-04-20202-04-20203-04-2020 |
| 6 | Nervous systemSisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA.Ankers R.M. and D.M. Denbow. 2008. Anatomy and Phsiology of Domestic Animals. Blackwell Publishing Ltd., UK.Frandson, R. D. 1975. Anatomy and Phsiology of Farm Animals. Lea and Febiger, Philadelphia, USA. | 8-04-20209-04-202010-04-2020 |
| 7 | Digestive system: the mouth, teeth, tongue, salivary glandsPharynx, esophagus, Ruminant and non-ruminant, stomachIntestines, pancreas, liver and spleen; the peritoneum;Sisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA. | 15-04-202016-04-202017-04-2020 |
| 8 | Respiratory system: the nostrils, nasal cavity, pharynx, larynx and trachea;Pleura and lungs;Urinary system: the kidneys, ureters, urinary bladder and urethra;Sisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA. | 22-04-202023-04-202024-04-2020 |
| **9** | **Mid Test** |  |
| 10 | Genital system: male genital organs includingVesiculae seminalis, Prostate,Masculinus, Bulbourethra glands and the Penis;Sisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA.Ankers R.M. and D.M. Denbow. 2008. Anatomy and Phsiology of Domestic Animals. Blackwell Publishing Ltd., UK. | 6-05-20207-05-20208-05-2020 |
| 11 | Female genital organs including ovaries, fallopian tubes,Uterus, vagina, vulvaSisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA.Ankers R.M. and D.M. Denbow. 2008. Anatomy and Phsiology of Domestic Animals. Blackwell Publishing Ltd., UK. | 13-05-202014-05-202015-05-2020 |
| 12 | Mammary glands, Endocrine glandsFrandson, R. D. 1975. Anatomy and Phsiology of Farm Animals. Lea and Febiger, Philadelphia, USA.Sisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA. | 20-05-202021-05-202022-05-2020 |
| 13 | Hypophysis cerebri, epiphysis cerebri, Thyroid, parathyroid, adrenal, pancreasSisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA.Frandson, R. D. 1975. Anatomy and Phsiology of Farm Animals. Lea and Febiger, Philadelphia, USA. | 27-05-202028-05-202029-05-2020 |
| 14 | Angiology study of heart pericardiumSisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA. | 3-06-20204-06-20205-06-2020 |
| 15 | Major arteries and VeinsSisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA. | 10-06-202011-06-202012-06-2020 |
| 16 | Superficial lymph glandsFrandson, R. D. 1975. Anatomy and Phsiology of Farm Animals. Lea and Febiger, Philadelphia, USA.Sisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA. | 17-06-202018-06-202019-06-2020 |
| **17** | **Final term** |  |

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| RESEARCH PROJECT |

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| ASSIGNMENT CRITERIA |

Sessional: 08

Mid-term: 12

Final Exam: 20

Practical: 20