**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 terminology  Sisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA. | 4-03-2020  5-03-2020  6-03-2020 |
| 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. | 11-03-2020  12-03-2020  13-03-2020 |
| 3 | Muscular system  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. | 18-03-2020  19-03-2020  20-03-2020 |
| 4 | Muscular system  Ankers 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. | 25-03-2020  26-03-2020  27-03-2020 |
| 5 | Skeletal muscles and their functions  Muscle contraction; levers; neurons: receptors; the reflex arc  http://adamowen.hubpages.com/hub/The-Functions-of-Muscles  Sisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA. | 1-04-2020  2-04-2020  3-04-2020 |
| 6 | Nervous system  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.  Frandson, R. D. 1975. Anatomy and Phsiology of Farm Animals. Lea and Febiger, Philadelphia, USA. | 8-04-2020  9-04-2020  10-04-2020 |
| 7 | Digestive system: the mouth, teeth, tongue, salivary glands  Pharynx, esophagus,  Ruminant and non-ruminant, stomach  Intestines, pancreas, liver and spleen; the peritoneum;  Sisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA. | 15-04-2020  16-04-2020  17-04-2020 |
| 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. | 22-04-2020  23-04-2020  24-04-2020 |
| **9** | **Mid Test** |  |
| 10 | Genital system: male genital organs including  Vesiculae 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. | 6-05-2020  7-05-2020  8-05-2020 |
| 11 | Female genital organs including ovaries, fallopian tubes,  Uterus, vagina, vulva  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. | 13-05-2020  14-05-2020  15-05-2020 |
| 12 | Mammary glands, Endocrine glands  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. | 20-05-2020  21-05-2020  22-05-2020 |
| 13 | Hypophysis cerebri, epiphysis cerebri, Thyroid, parathyroid, adrenal, pancreas  Sisson, 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. | 27-05-2020  28-05-2020  29-05-2020 |
| 14 | Angiology study of heart pericardium  Sisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA. | 3-06-2020  4-06-2020  5-06-2020 |
| 15 | Major arteries and Veins  Sisson, A. and J. D. Grossman. 1972. Anatomy of Domestic Animals. W.B. Saunders Co., Philadelphia, USA. | 10-06-2020  11-06-2020  12-06-2020 |
| 16 | Superficial lymph glands  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. | 17-06-2020  18-06-2020  19-06-2020 |
| **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