**Birla Institute of Technology and Science, Pilani**

Hyderabad Campus

**FIRST SEMESTER 2021-22**

course Handout



**Dated: August 20, 2021**

**Course No : BIO F313**

**Course Title : Animal Physiology**

**Instructor-In charge** : **Dr. K. Naga mohan**

**Co-instructor** : Anuhya Anne

**1. Course Description:**

Fundamentals underlying the working of tissues and organ systems in animals with emphasis on mammalian systems and integration of organ systems at the level of the whole organism. Important physiological systems will be taught such as respiratory, circulatory, nervous, endocrine, excretory, muscles, skeletal and reproductive systems.

**2. Scope & Objective:**

This course attempts to bring the awareness to the students regarding major features of physiological system in animals with focus on human physiology. Emphasis will be given to the function and adaptations as related to the survival of organisms in their ecosystem.

**Text Book:**

Sherwood, L., Klandorf, H. and Yancey, P.H., Animal Physiology: From Genes to Organisms, 2005, Brook/Cole Cengage Learning., Singapore

**Reference books:**

1.Sherwood L: Principles of Human Physiology. Brook/Cole Cengage Learning., Indian edition

2.Christopher D. Moyes and Patricia M. Schulte, Principles of Animal Physiology.2nd edition Pearson Education, 2016

**Course plan\*:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Lect.** | **Learning objective** | **Topics to be covered** | **Chapter in the Text Book** |
| 1-2 | What is Homeostasis? | Introduction to Physiology and  Homeostasis | TB: Chap 1&2  RB1: Chap 1 |
| 3-6 | How are electric signals generated and transmitted? | Neuronal Physiology | TB: Chap 4 |
| 7-11 | Organization of Brain, nerves and the spinal cord | Nervous system | TB: Chap 5  RB2: Chap 7 |
| 12-14 | How do we sense a stimulus? | Sensory Physiology | TB: Chap 6 |
| 15-18 | Support and movement of the body | Muscles Physiology | TB: Chap 8 |
| 19-22 | Hormones and their function | Endocrine system | TB: Chap 7 |
| 23-26 | Self-maintenance and exchange of metabolites | Circulatory system | TB: Chap 9 |
| 27-30 | Breathing and exchange of gases | Respiration system | TB: Chap 11 |
| 31-33 | Organ system and glands involved in food processing | Digestive system | TB: Chap 14 |
| 34-37 | Regulating the internal environment and removing the waste | Excretory system | TB: Chap 12 |
| 38-40 | How animals multiply? | Reproductive system | TB: Chap 16 |

**\*** Some components of the topics related to brain, sensory physiology and reproduction will be also given as self-study for open book/ take home evaluations

**Evaluation scheme:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Component | **Duration** | **Weightage %**  **(Total marks-200)** | **Date & Time** | **Venue** | **Remarks** |
| Mid Semester Test |  | 30 (60M) | 21/10/2021 11.00 -12.30PM | | CB |
| Multiple Quizzes +  Open Book evaluations+ | Variable | 20 (40M)  15 (30M) | Announced in class |  | CB  OB |
| Comprehensive |  | 35 (40M)  (30M) | 18/12 FN | | CBment cannot be done.ng.lone for sequencing>sis by afternoon.y  OB |

**+** Quizzes areannounced, a total of three quizzes will be taken. Students will be given topics to be read from whatever material they can access and then will be asked to give a written document on the basis of their understanding on a scheduled day.

**CB- Closed Book**

**OB- Open Book**

**Chamber consultation hour**: To be announced in the class.

**Notices:**

All notices/ announcements regarding this course shall be displayed in Course Management System

**Grading policy:** Award of grades will be guided in general by the histogram of marks. Decision on border line cases will be taken based on individual’s sincerity, student’s regularity in attending classes, and instructor’s assessment of the student.

**Make-up policy:**

Make-ups will be granted for mid semester test or comprehensive test only if candidate is sick and hospitalized. No make-up will be granted for quizzes/assignments under any circumstances.

**Academic Honesty and Integrity Policy**:

Academic honesty and integrity are to be maintained by all the students throughout the semester and no type of academic dishonesty is acceptable.

#### Instructor-in- charge

**BIO F313**