



**BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI**  
**FIRST SEMESTER 2015-2016**

**(Course Handout Part II)**

Dated:03.08.15

In addition to part I (general handout for all courses appended to the timetable) this portion gives further specific details regarding the course.

**Course No** : BIO F313  
**Course Title** : **Animal Physiology**  
**Instructor-In charge** : Shilpi Garg  
**Instructor** : Rajdeep Chowdhury

**1. Course Description:**

Basic functional processes in animals; like homeostasis, membrane physiology, digestive, respiratory, excretory, circulatory, reproductive, nervous, sensory, muscular, endocrine systems will be studied at structural, functional, cellular and molecular point of view.

**2. Scope & Objective:**

This course attempts to bring the awareness of students to major features of animal physiology, including human. Emphasis will be given to structure, function, relation and evolution of every organ.

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

**Reference Books:** Sherwood, L. Principles of Human Physiology, 2007, Brook/Cole Cengage Learning, Indian Edition.

**Course Plan:**

S. No.	Animal Physiology		
1-2	Introduction to Physiology	Cellular Organization; Homeostasis: Basic Mechanisms	Chapter 1 TB
3 - 6	Digestive system	Parts of the Digestive System and Function	Chapter 14 TB
7 – 10	Excretory system	Organs, Filtration, Re-absorption and Secretion	Chapter 12 TB





11-13	Membrane structure and Transport	Membrane Physiology; Composition Transport and Membrane Potential	Chapter 3 TB
14-17	Nervous System and Neuronal Physiology	Central and Peripheral Nervous System, Neurons	Chapter 4-5 TB
18-21	Circadian Rhythm & Endocrine System	Biological Clock, Hypothalamus, Pituitary, Glands and Hormones	Chapter 7 TB
22-25	Circulatory system	Circulatory Fluids, Heart, Cardiac Cycle, Regulatory Factors	Chapter 8 TB
26-30	Respiratory system	Organs Involved, Mechanics, Gas Exchange and Transport	Chapter 11 TB
31-34	Muscular System	Skeletal, Cardiac and Smooth Muscle	Chapter 16 TB
35-39	Reproductive System	Male and Female Reproductive System	Chapter 9 TB

**Evaluation Scheme:**

Component	Duration	Weightage %	Date & Time	Venue	Remarks
Mid-Semester Test	90 Min.	30	10/10 2:00 - 3:30 PM		CB
Quiz and Assignment	Variable	20			
Presentations		10			
Comprehensive	3 Hrs.	40	14/12 FN		CB/OB

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

**Notices:** All notices will be displayed on the notice board of Department of Biological Sciences.

**Make-up policy:** Make-up decisions will be made on a case-by-case basis and only genuine cases as determined by the team and validated by Wardens and/or Medical Officer will be considered. No make-ups for Quizzes.

**Instructor-in-charge**  
**BIO F313**

