**II.2.3 ANIMAL PHYSIOLOGY**

1. **Course description:**
2. **Credit points**: 3 ECTS
3. **Time commitment:**

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| --- | --- | --- | --- | --- | --- |
| Items | Lecture | Tutorial/Exercise | Practice/Assignment | Lab-work | **Total** |
| No. of hours | 24 | 0 | 0 | 6 | **30** |

1. **Prerequisites**: N/A
2. **Recommended background knowledge**: General Biology, Physics, and Chemistry
3. **Subject description:**

Physiology is the study of the normal functioning of animals during life and of the activities by which life is maintained and transmitted. It includes the study of vital activities in cells, tissues, and organs such as contractility of muscle tissue, coordination through the nervous system, feeding, digestion, excretion, respiration, circulation, reproduction, and secretion. The study of human physiology was stimulated by the development of medicine. Physiology embraces many chemical and physical principles.

1. **Objectives & Outcome**

*(Knowledge &/ Skills gained via the course)*

1. **Assessment/ Evaluation**

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| --- | --- | --- | --- | --- | --- | --- |
| Component | Attendance | Exercises | Assignments | Reports | Midterm | Final |
| Percentage % | 10 | 10 | 0 | 10 | 30 | 40 |

1. **Prescribed Textbook(s)**
* Human Anatomy &Physiology Plus MasteringA&P by Elaine N. Marieb and Katja Hoehn (8th Edition)
* Animal Physiology: From Genes to Organisms by Lauralee Sherwood, Hillar Klandorf and Paul Yancey
* Berne & Levy Physiology by Bruce M. Koeppen and Bruce A. Stanton (6th Updated Edition)
* Human Anatomy &Physiology Laboratory Manual by N. Marieb & Susan J. Mitchell (9th Edition)
1. **Course content & schedule:**
2. Introduction in Physiology
3. Basic Animal and Human Anatomy
4. Basic Histology
5. Practice in Animal Anatomy
6. Practice in Histology
7. Homeostasis
8. Body Fluid
9. Energy and Metabolism
10. Excitable Cell
11. Neural System
12. Special Sensory
13. Skeletal Muscle
14. Smooth and cardiac muscles
15. Practice in Pupillary and Knee Jerk Reflex
16. Practice in Muscle Contractile Property
17. Animal Movement
18. Basic Respiratory Gas Transportation
19. Animal Respiratory System
20. Hemodynamic
21. Basic Cardiovascular System
22. Heart and Vascular System
23. Comparative Circulatory System
24. Cardiovascular Controls
25. Cardiovascular Responses to Exercise and Bleeding
26. Practice in Lung Function
27. Practice in Measurement of Blood Pressure & Heart rate
28. Basic Gastrointestinal Function
29. Digestion and Nutrition
30. Water Regulation in Aquatic Animals
31. Water Regulation in Territorial Animals
32. Body Acid and Base Balance
33. Basic Endocrine Physiology
34. Glucose Regulation
35. Endocrine Hormones
36. Practice in Body Water Regulation
37. Practice in Body Temperature Regulation
38. Metamorphosis
39. Basic Reproductive System
40. Male and Female Reproduction
41. Thermoregulation
42. **Reference Literature:**

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| [1]. Human Anatomy &Physiology Plus MasteringA&P by Elaine N. Marieb and Katja Hoehn (8th Edition) |
| [2]. Animal Physiology: From Genes to Organisms by Lauralee Sherwood, Hillar Klandorf and Paul Yancey  |
| [3]. Berne & Levy Physiology by Bruce M. Koeppen and Bruce A. Stanton (6th Updated Edition) |
| [4]. Human Anatomy &Physiology Laboratory Manual by N. Marieb & Susan J. Mitchell (9th Edition) |