



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Animal Physiology							
Course Code		TBY222		Course Level		First Cycle (Bachelor's Degree)			
ECTS Credit	3	Workload	125 (<i>Hours</i>)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		The aim of the draft structure of the course of the functions of live animals, according to the foundation to explain the evolutionary steps. Most of the basic secrets physiology, cellular and molecular level in recent years with many new techniques have been developed. Therefore, the principle of molecular physiology and physical terms, many born in the ability to express. Transport of substances in the cell, chemical structures, digestive, respiratory, circulatory, excretory systems, and also move the muscles and physiology, aimed to explain the physiology of sensory and nervous.							
Course Content		The Meaning of Physiology, Central Themes in Physiology, Digestive System and Nutrition, Some Impotrant Inorganic Molecules, Biological Molecules, Feeding Stragies, Absorption of Food, Small Intestine Asorbs, Respiratory System, Exchange of Gases, Respiratoy Pigments, The Insect Tracheal System, The Vertebrata Gill: Water Breathing, Regulation of Gas Transfer and Respiration, Ventilation / Perfusion in Gill, The Vertebrate Lung: Air Breathing, Mechanisms of Ventilation in Lung, Volume and Capasity of the Lung, Oxygen Transport in Blood, CO2 Transport in Blood, Fonctional Anatomy of the Lung, The Problems of the Alveolar Collapse, Heat and Water Loss With Respiration, Circulatory System, General Plan of the Circulatory System (Protozoon, Sponge, Coelenterata and Platyhelminthes. Nematelminthes, Annelida, Arthropods, Mollusca), Blood Cells Occur in Plasme, Platelets Assist Blood Clotting, Blood Vessels, Arteries and Arterioles: Away from the Heart, Capillaries: Exchange Takes Place, Veins and Venules: to the Heart, Fonctional Morphology of the Vertebrate Heart, The Mammalian Heart, Electrical Activity of the Heart, Changes in Pressure and Flow, During a Single Hearbeat, Respiratory System, Invertebrate Osmoregulation Organs, Osmoregulation in Aqueus Environments, Fresh Water Animals, Marine Animals, Vertebrate Kidney, Evolution of the Vertebrate Kidney, Anatomy of the Mammalian Kidney, An Overview of Urine Formation, Glomerular Filtration, Tubular Reabsorption, Tubular Secration, PH Regulation by the Kidney, Renal Regulatory Mechanisms, Control of Glomerular Filtration Rate, Control of Tubular Reabsorption of Na+, Control of Osmatic WaterRetention, Renal Clearance, Nervous System, Animal Nervous Systems, Neuron Structure, Nerve Impuls, Transmission Across a Snapse, Peripheral Nervous System, Central Nervous Sytem, Muscle and Movement, Structural Basis of Contraction, Substructure of the Miyofilaments, Sliding- Flament Theory, Cross-Bridge and the Production on Force, Cardiac Muscle, Smooth Muscle, Musculoskeletal Mechanics, Lymphatic System and Immunity, Lymphatic System, Nonspecific Defenses, Specific Defences, Induced Immunity, Immunity Side Effects, Endocrine System, Hypotalamus and Pituitary, Adrenal Glands Have Two Parts, Pancreas Produces Two Hormons, Other Endocrine Glands, Reproductive System, Male Reproductive System, Female Reproductive System,							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Individual Study					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

1	Çevik, İ. E., Göçmen, B., Mermer, A. Hayvan Fizyolojisi (Cilt I: Sindirim, Solunum, Dolaşım ve Boşaltım) Ege Üniversitesi Fen Fakültesi Kitaplar Serisi, No. 169 İzmir, 2009
2	Eckert, R., Ranall, D. Animal Physiology Mechanisms and Adaptations, W.H. Freeman and Company San Francisco, 1983
3	Guyton, A. C., Hall, J. E. Medical Physiology (Tıbbi Biyoloji) Türkçe çeviri Editörü H. Çavuşoğlu, Nobel Tıp Kitapevleri, 1996

Week	Weekly Detailed Course Contents	
1	Theoretical	The Meaning of Physiology, Central Themes in Physiology, Digestive System and Nutrition, Some Important Inorganic Molecules
	Preparation Work	Reading: source books
2	Theoretical	Biological Molecules, Feeding Strategies
	Preparation Work	Reading: source books
3	Theoretical	Absorption of Food, Small Intestine Absorbs, Respiratory System, Exchange of Gases, Respiratory Pigments, The Insect Tracheal System
	Preparation Work	Reading: source books



4	Theoretical	The Vertebrata Gill: Water Breathing, Regulation of Gas Transfer and Respiration, Ventilation / Perfusion in Gill
	Preparation Work	Reading: source books
5	Theoretical	The Vertebrate Lung: Air Breathing, Mechanisms of Ventilation in Lung, The Volumes of Air Respired and the Capacity of the Lungs
	Preparation Work	Reading: source books
6	Theoretical	Oxygen Transport in Blood, CO ₂ Transport in Blood, Functional Anatomy of the Lung, The Problems of the Alveolar Collapse, Heat and Water Loss With Respiration,
	Preparation Work	Reading: source books
7	Theoretical	Circulatory System, General Plan of the Circulatory System (Protozoan, Sponge, Coelenterata and Platyhelminthes, Nematelminthes, Annelida, Arthropods, Mollusca), Blood Cells Occur in Plasma
	Preparation Work	Reading: source books
8	Intermediate Exam	Midterm exam
9	Theoretical	Platelets Assist Blood Clotting, Blood Vessels, Arteries and Arterioles: Away from the Heart, Capillaries: Exchange Takes Place, Veins and Venules: to the Heart, Functional Morphology of the Vertebrate Heart
	Preparation Work	Reading: source books
10	Theoretical	The Mammalian Heart, Electrical Activity of the Heart, Changes in Pressure and Flow, During a Single Heartbeat,
	Preparation Work	Reading: source books
11	Theoretical	Respiratory System, Invertebrate Osmoregulation Organs, Osmoregulation in Aqueous Environments, Fresh Water Animals, Marine Animals, Vertebrate Kidney, Evolution of the Vertebrate Kidney, Anatomy of the Mammalian Kidney,
	Preparation Work	Reading: source books
12	Theoretical	An Overview of Urine Formation, Glomerular Filtration, Tubular Reabsorption, Tubular Secretion, pH Regulation by the Kidney, Renal Regulatory Mechanisms, Control of Glomerular Filtration Rate, Control of Tubular Reabsorption of Na ⁺ , Control of Osmotic Water Retention, Renal Clearance,
	Preparation Work	Reading: source books
13	Theoretical	Nervous System, Animal Nervous Systems, Neuron Structure, Nerve Impuls, Transmission Across a Synapse, Peripheral Nervous System, Central Nervous System,
	Preparation Work	Reading: source books
14	Theoretical	Muscle and Movement, Structural Basis of Contraction, Substructure of the Myofibrils, Sliding-Filament Theory, Cross-Bridge and the Production of Force, Cardiac Muscle, Smooth Muscle, Musculoskeletal Mechanics, Lymphatic System and Immunity, Lymphatic System, Nonspecific Defenses, Specific Defences, Induced Immunity, Immunity Side Effects
	Preparation Work	Reading: source books
15	Theoretical	Endocrine System, Hypothalamus and Pituitary, Adrenal Glands Have Two Parts, Pancreas Produces Two Hormones, Other Endocrine Glands, Reproductive System, Male Reproductive System, Female Reproductive System,
	Preparation Work	Reading: source books
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	2	56
Assignment	6	5	3	48
Reading	14	1	0	14
Midterm Examination	1	2	1	3
Final Examination	1	3	1	4
Total Workload (Hours)				125
[Total Workload (Hours) / 25*] = ECTS				5
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	The Meaning of Physiology, Central Themes in Physiology
2	Digestive System and Nutrition
3	Respiratory System
4	Circulatory System



5	Excretory System
6	Nervous System
7	Muscle and Movement
8	Lymphatic System and Immunity
9	Endocrine System
10	Reproductive System
11	Grasp the above-mentioned systems and organisms to reveal the differences between the system
12	Physiology adapt the current implementation
13	Experimental logic, analytical thinking, quantitative analysis and problem solving to provide the establishment of the connection between

Programme Outcomes (Agricultural Biotechnology)

1	To be able to develop skills in identifying, modeling and solving problems in agricultural biotechnology
2	To be able to synthesize life and engineering sciences for the effective resource planning of agricultural biotechnology applications
3	To be able to interpret about living organisms structure, metabolic and physiological processes in order to propose biotechnological solutions to the agricultural problems
4	To be able to analyze genomic, metabolomic and proteomic information via bioinformatic tools.
5	To have the ability to analyze collected data and interpret the results.
6	To have the ability of individual working ability and to make independent decisions, to work in inter-disciplinary and interdisciplinary teamwork, to communicate by expressing their ideas orally and in writing, clearly and concisely
7	To have the awareness of professional liabilities and ethics
8	To be able to follow current national and international problems

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13
P1	3	3	3	3	3	3	3	3	3	3	5	5	4
P2	4	4	4	4	4	4	4	4	4	4	5	5	4
P3	4	4	4	4	4	4	4	4	4	4	5	4	4
P4	4	4	4	4	4	4	4	4	4	4	5	5	4
P5	4	4	4	4	4	4	4	4	4	4	5	4	5
P6	3	3	3	3	3	3	3	3	3	3	5	5	5
P7	3	3	3	3	3	3	3	3	3	3	5	5	4
P8	4	4	4	4	4	4	4	4	4	4	4	5	3

