



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		-Biochemistry of Exercise							
Course Code		VBY656		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	2	Workload	48 ( <i>Hours</i> )	Theory	1	Practice	0	Laboratory	0
Objectives of the Course		Meet the energy needs of the muscles during exercise, metabolic pathways, and to give information on the use of the energy released.							
Course Content		Ways to mild and severe destruction exercises of carbohydrates, lipids and proteins in ways demolition, heavy exercises occurring free radicals and their elimination, oxidative phosphorylation							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study					
Name of Lecturer(s)									

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Final Examination	1	100

### Recommended or Required Reading

1	Biyokimya (Prof. Dr. Figen GÜRDÖL, Doç. Dr. Evin ADEMOĞLU),
2	Biyokimya (Prof. Dr. Nalan BAYŞU SÖZBİLİR, Prof. Dr. Nihat BAYŞU)
3	Harper Biyokimya(Prof. Dr. Nurten DİKMEN, Prof. Dr. Tuncay ÖZGÜNEN)
4	Egzersiz Biyokimyası Ve Obesite(İsmail PEKER)

Week	Weekly Detailed Course Contents	
1	Theoretical	Muscle structure
2	Theoretical	Function of muscles
3	Theoretical	Muscle protein
4	Theoretical	Contraction of muscles
5	Theoretical	Glycolysis
6	Theoretical	Anaerobic glycolysis
7	Theoretical	Cori Cycle
8	Theoretical	TCA Cycle
9	Theoretical	Midterm exam
10	Theoretical	Oxidative Phosphorylation
11	Theoretical	Synthesis of ATP
12	Theoretical	Light, Medium and Heavy Exercise Energy Requirements
13	Theoretical	Formation of free radicals during exercise, Adaptation to exercise
14	Theoretical	Discussion of the research on exercise

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	1	28
Reading	2	0	5	10
Midterm Examination	1	3	1	4
Final Examination	1	5	1	6
Total Workload (Hours)				48
[Total Workload (Hours) / 25*] = ECTS				2

\*25 hour workload is accepted as 1 ECTS

### Learning Outcomes

1	Knowledge of the structure and the contraction of the muscles
2	To learn about the functions of the muscle



3	Aerobic and anaerobic glycolysis to learn
4	Oxidative phosphorylation and ATP synthesis grasp grasp of metabolic reactions by contacting
5	To have knowledge about metabolic and biochemical adaptation of the body in sudden and continuous physical activities

**Programme Outcomes (Biochemistry (Veterinary Medicine) Doctorate)**

1	Has a deep and broad knowledge about the field and the interdisciplinary area related with the field through the achievements gained in undergraduate and professional levels.
2	Has the knowledge to create original ideas, analyze them and develop definition/product/diagnosis methods by using the knowledge gained in undergraduate and/or professional experience, when needed.
3	Is knowledgeable about theories and practices in methodological and scientific research methods to run an independent research.
4	Excels in the laboratory, clinical and similar fields by using the theoretical and practical information gained in former education, and has the ability to create solutions in related fields.
5	Designs and develops scientific methodology for the advanced level/newly defined/emerged problems about the field.
6	Excels in the known scientific methods in the field for the advanced level/ newly defined/emerged problems.
7	Designs unique researches and implements independently.
8	Analyzes, synthesizes and evaluates the new ideas in related fields by using critical thinking.
9	Plans, creates teams and carries out the interdisciplinary research projects in order to create solutions to the known/newly defined problems.
10	Joins to congresses, panels, symposiums, workshops, seminars, article discussions and problem solving sessions in different disciplines, and exchanges information with the other professionals to contribute to the solutions.
11	Broadens the borders of scientific information by publishing scientific articles in national and/or international peer-reviewed journals.
12	Creates new ideas and methods to contribute to the technological, social and cultural progress, or to help the development of information society by using the theoretical, practical, independent research, abilities responsibly.
13	Designs and implements social projects with the awareness of creating an information society.
14	Compiles and interprets any type of data (field observation, scientific knowledge etc.) in accordance with the aims.
15	Develops and uses strategies about related topics with the field.
16	Implements and defends institutional and practical information and abilities in accordance with the needs of the country and the world, and changes when necessary.
17	Follows up and uses all the updates about the field (scientific information, legislations etc.), and has the qualification to change them.
18	Adopts lifelong learning as a principle and acknowledges that the information gained through research is the most valuable gain.

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

	L1	L2	L3	L4	L5
P2	5	5	5	5	5
P4		5	5	5	5
P9			5	5	5

