



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Mechanism of Membrane Transport and Intracellular Signaling Ways							
Course Code		VBY609		Couse Level		Third Cycle (Doctorate Degree)			
ECTS Credit	4	Workload	104 (<i>Hours</i>)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		Osmosis, active transport, diffusion, endocytosis, klatrin vesicles, which is localized to the cell membrane receptors and their mechanisms of action, secondary messengers, calmodulin, IP3 way, adenylate cyclase path, the signal peptides of proteins that mediate the delivery to target tissues to provide information and knowledge about the structure and properties of acquire							
Course Content		Osmosis, active transport, diffusion, endocytosis, klatrin vesicles, which is localized to the cell membrane receptors and their mechanisms of action, secondary messengers, calmodulin, IP3 way, adenylate cyclase path, the signal peptides of proteins that mediate the structure and properties of target tissues							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Individual Study					
Name of Lecturer(s)		Prof. Funda KIRAL							

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	2	20
Final Examination	1	60
Quiz	2	10
Assignment	2	10

Recommended or Required Reading

1	1.Biyokimya Güneş Tıp Kitabevi
2	2. Biochemistry Leninger
3	3. Biochemistry Lipinkot

Week	Weekly Detailed Course Contents	
1	Theoretical	General features of the metabolism
2	Theoretical	Molecular content of the membranes and their structure
3	Theoretical	Transport of solids in the membranes
4	Theoretical	Osmosis, active transport, diffusion, endocytosis, vesicles of klatrin
5	Intermediate Exam	Midterm exam
6	Theoretical	Cell membrane receptors
7	Theoretical	Secondary messengers
8	Theoretical	Secondary messengers
9	Theoretical	Signal peptides
10	Theoretical	Gated ion channels
11	Intermediate Exam	Midterm Exam
12	Theoretical	Ion channels
13	Theoretical	Sight, smell and taste senses transmission
14	Theoretical	Phosphorylation
15	Theoretical	Discussion
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Assignment	2	2	1	6
Reading	2	5	3	16
Quiz	2	5	0.5	11
Midterm Examination	2	10	1	22



Final Examination	1	20	1	21
Total Workload (Hours)				104
[Total Workload (Hours) / 25*] = ECTS				4
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	1. To be informed about osmosis, active transport, diffusion, endocytosis
2	2. Having information about the receptor systems
3	3. To be informed about IP3 pathway
4	4. To be informed about calmodulin
5	5. To learn adenylate cyclase pathway
6	6. To be informed about about the signal peptides
7	7. To be informed about Phosphorylation
8	8. Gain the ability to use the knowledge acquired

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	L6	L7	L8
P1	5	5	5	5	5		5	
P4	5	5	5	5	5		5	
P6						5		5
P7						5		5
P8	4	4	4	4	3		4	
P12	3	3	3	3	3		3	
P14	5	5	5	4	4		4	
P16	5	5	5	5	5		4	
P17	5	5	5	4	4		5	5

