AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	PCR and Application Fields								
Course Code	VBY644		Couse Level		Third Cycle (Doctorate Degree)				
ECTS Credit	3	Workload	80 *(Hours)*	Theory	1	Practice	2	Laboratory	0
Objectives of the Course	The principle of of PCR, some applications of PCR and evaluation of results.								
Course Content	The principle of of PCR, some applications of PCR and evaluation of results.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Experiment, Demonstration, Individual Study								
Name of Lecturer(s)									

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

Recommended or Required Reading	
1	PCR Troubleshooting and Optimization: The Essential Guide. Caister Academic Press. Edited by: David Rodriguez-Lazaro
2	A-Z of Quantitative PCR. Stephen A. Bustin.

Week	Weekly Detailed Course Contents	
1	Theoretical	The definition and history of PCR
	Practice	Presentation the Central Laboratory
2	Theoretical	Application areas of PCR
	Practice	Presentatiom of equipments
3	Theoretical	The advantages of PCR
	Practice	Preparation of application plan
4	Theoretical	PCR of the reasons for limiting
	Practice	Preparation of tools and equipment
5	Theoretical	Developments in PCR
	Practice	Sample preperation
6	Theoretical	The basic components of PCR
	Practice	Analysis
7	Theoretical	Types of PCR
	Practice	Analysis
8	Practice	Analysis
	Intermediate Exam	Midterm exam
9	Theoretical	Efficient PCR amplification conditions
	Practice	Analysis
10	Theoretical	The general problems by PCR
	Practice	Analysis
11	Theoretical	Sources of potential contamination of PCR
	Practice	Analysis
12	Theoretical	Needs to be done to prevent contamination of PCR
	Practice	Analysis
13	Theoretical	Potential problems related to pcr
	Practice	Evaluation of results
14	Theoretical	The use of PCR in the diagnosis of diseases
	Practice	Discussion

15	Theoretical	Discussion
	Practice	Control of homework
16	Final Exam	Final exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	1	14
Lecture - Practice	14	0	2	28
Assignment	2	2	1	6
Quiz	2	5	0.5	11
Midterm Examination	1	7	1	8
Final Examination	1	12	1	13
			Total Workload (Hours)	80
			[Total Workload (Hours) / 25*] = **ECTS**	3
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	Laboratory work to learn the layout.
2	Learn how to use PCR.
3	To learn the application areas of PCR
4	To learn how to prepare samples for PCR applications
5	To learn the advantages and disadvantages of PCR

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
P1	5		5	5	5
P2	5				

P3		5	5	5	5
P8	4		4	4	4
P12	5	5	5	5	4
P15	5				
P18	3	3	3	3	3