AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title	Recombinant Proteins and Their Applications								
Course Code	MBTK601		Couse Level	Third Cycle (Doctorate Degree)					
ECTS Credit	8	Workload	200 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	The aim of this course is to give current information about recombinant proteins and their applications.								
Course Content	During these lectures information about recombinant proteins and their production will be given. Recombinant technology will be discussed and, cells used for recombinant synthesis, induction of synthesis, purification of recombinant proteins, and use of recombinant proteins in distinct field will be discoursed.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Experiment, Discussion, 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	All scientific journals and textbook on recombinant proteins

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to Recombinant protein and its history
2	Theoretical	Technologies of Recombinant protein production
3	Theoretical	Recombinant proteins
4	Theoretical	Recombinant vaccins
5	Theoretical	Recombinant enzymes
6	Theoretical	Recombinant proteins and fast diagnostic tests
7	Theoretical	Purification of recombinant proteins
8	Intermediate Exam	Midterm exam
9	Theoretical	Vectors used for recombinant protein production
10	Theoretical	Posttranslational modification of recombinant proteins
11	Theoretical	Induction methods for recombinant protein production
12	Theoretical	Recombinant drugs
13	Theoretical	Fusion recombinant protein and genetic engineering
14	Theoretical	Strategies for recombinant protein production in E. coli
15	Final Exam	Final exam

Workload Calculation				
Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	13	0	3	39
Assignment	4	0	15	60
Term Project	2	0	5	10
Laboratory	2	0	5	10
Individual Work	13	0	5	65
Quiz	2	0	5	10
Midterm Examination	1	0	3	3

Final Examination	1	0	3	3
			Total Workload (Hours)	200
			[Total Workload (Hours) / 25*] = **ECTS**	8
**25 hour workload is accepted as 1 ECTS*				

Learning Outcomes	
1	Have current information about recombinant proteins
2	Be able to know cells and vectors used for recombinant protein synthesis
3	To get current knowledge about the effects of recombinant proteins on health
4	To have current knowledge on recombinant technology
5	To have current knowledge on recombinant protein purification
6	To have current knowledge on recombinant vaccins and their production
7	To have current knowledge on recombinant proteins used for health.
8	To have current knowledge on recombinant proteins used for agriculture
9	To have current knowledge on recombinant proteins used for food sector
10	To have current knowledge on recombinant enzymes and their use

Programme Outcomes *(Molecular Biotechnology(English) Interdisciplinary Doctorate)*	
1	Ability to identify, analyze and understand problems related to molecular biotechnology and finding valid conclusions with basic knowledge in biotechnology
2	Ability to appropriately use laboratories and their associated equipment as part of research and observation activities through various branches of sciences
3	Ability to understand and interpret biological processes at cell, tissue, organ, system and organism levels
4	Ability to decide and apply appropriate tools and techniques in biotechnological manipulation
5	Ability to comprehend fundamentals of genetics and molecular biology and carry out basic methods in relevant applications
6	Ability to apply the fundamentals of protein and DNA chemistry, and immunology to techniques in biotechnology
7	. Ability to understand and practice basics of applied biotechnology, with acquired knowledge on problem solving approaches
8	Ability to understand and interpret basics of molecular applications within medical, agriculture, veterinary and forensic sciences
9	Ability to perceive biological existence at the global and regional scales, together with comprehension of associated problems
10	Acquiring appropriate knowledge in the field of basic sciences to support perception, analysis and interpretation of biological facts, and ability to use and practice relevant methods for this goal
11	Ability to develop proficiency in laboratory management, including maintenance of an orderly work environment, inventory and ordering, and set up or maintenance of equipment
12	Ability to learn essential methods in microbiology and basic skills in a microbiology labortaory
13	Ability to demonstrate proficiency with standard techniques in liquid measurement, recombinant DNA technology, protein purification and identification, and cell culture

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
P1	5	5	5	5	5	5	5	5	5	5
P2	5	5	5	5	5	5	5	5	5	5
P3	3	3	3	3	3	3	3	3	3	3
P4	5	5	4	4	4	4	4	4	4	4
P5	5	5	4	4	4	4	4	4	4	4
P6	3	3	3	3	3	3	3	3	3	3
P7	4	4	5	5	5	5	5	5	5	5
P8	4	4	5	5	5	5	5	5	5	5
P9	4	4	5	5	5	5	5	5	5	5
P10	4	4	5	5	5	5	5	5	5	5
P11	3	3	3	3	3	3	3	3	3	3
P12	3	3	3	3	3	3	3	3	3	3
P13	5	5	5	5	5	5	5	5	5	5