



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Scientific Research Techniques							
Course Code		MBTK635		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	2	Workload	52 (Hours)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course		The aim of this course is give an information about priniciples of scientific research							
Course Content		Hypothesis display in a scientific research. Finding suitable material, controlled experiments, obtaining and interpretation of results							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study					
Name of Lecturer(s)		Prof. Gamze BAŞBÜLBÜL, Prof. İlnur DABANOĞLU							

Assessment Methods and Criteria

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

Recommended or Required Reading

1	Bilimsel Araştırma Yöntemleri, ISBN: 9789750233913
2	Bilimsel Araştırma Yöntemleri, ISBN 9944919289

Week	Weekly Detailed Course Contents	
1	Theoretical	Science and research concepts
2	Theoretical	Scientific research types
3	Theoretical	Literature search
4	Theoretical	Introduce a scientific problem and hypothesis
5	Theoretical	Determination of research materials
6	Theoretical	Research subjects
7	Theoretical	Method determination in scientific researchs
8	Intermediate Exam	Midterm exam
9	Theoretical	Research ethics
10	Theoretical	Interpretation and analysis of scientific data
11	Theoretical	Scientific project preparation
12	Theoretical	Scientific project preparation
13	Theoretical	Applications for literature lining
14	Theoretical	Scientific research sample preparation
15	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	13	0	2	26
Assignment	4	0	5	20
Midterm Examination	1	0	3	3
Final Examination	1	0	3	3
Total Workload (Hours)				52
[Total Workload (Hours) / 25*] = ECTS				2

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	Be able to understand scientific research concept
2	Be able to recognize hypothesis establishment, material and method choose
3	Be able to get skills for interpretation and analyses to reserach data



4	Be able to understand steps for publication
5	Be able to understand steps for publication

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

