



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Applied Microbiology							
Course Code		TBY104		Couese Level		First Cycle (Bachelor's Degree)			
ECTS Credit	4	Workload	100 (<i>Hours</i>)	Theory	2	Practice	0	Laboratory	2
Objectives of the Course		To acquaint about the contents and the basic principles of microbiology. To explain microorganisms and microbial metabolism for detection and identification.To explain the implications and importance of microorganisms in the environment and environmental health.							
Course Content		Microorganisms and microbiology, Microbial systematics, morphology, growth, growth control. Genetics of microorganisms, mutations and microbial metabolism.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Discussion					
Name of Lecturer(s)		Lec. Çiğdem YAMANER							

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Final Examination	1	110

Recommended or Required Reading

1	1. Güven, S.; Zorba, N.; 2013: Genel Mikrobiyoloji ve Laboratuvar Kılavuzu; Nobel Akademik Yayıncılık, ANKARA. (Ders Kitabı)
2	2. Çökmüş, C, 2012: Brock Mikroorganizma Biyolojisi (11. Baskıdan Çeviri, Palme yayıncılık, ANKARA (Kaynak Kitap)

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction of microbiology
	Laboratory	Laboratuvarda uyulması gereken kurallar
	Preparation Work	Kaynak ve ders kitabı, laboratuvar
2	Theoretical	Cell structures of eukaryotic microorganisms
	Laboratory	Explain of microbiological terms
	Preparation Work	Source and course books, laboratory
3	Theoretical	Cell structures of prokaryotic microorganisms
	Laboratory	preparation of media
	Preparation Work	Source and course books, laboratory
4	Theoretical	Characteristics of prokaryotic and Eukaryotic cells
	Laboratory	to bacterial inoculation with streak plate methods.
	Preparation Work	Source and course books, laboratory
5	Theoretical	Growth and culturing of microorganisms
	Laboratory	to shown a bacterial colony on agar plate
	Preparation Work	Source and course books, laboratory
6	Theoretical	Microbial growth control
	Laboratory	to make antibiogram
	Preparation Work	Source and course books, laboratory
7	Theoretical	Microbial growth control
	Laboratory	to shown an inhibition of bacterial growth
	Preparation Work	Source and course books, laboratory
8	Intermediate Exam	Lesson repetition
9	Theoretical	Microbial propagation
	Laboratory	Endospore staining
	Preparation Work	Source and course books, laboratory
10	Theoretical	Microbial metabolism
	Laboratory	Measuring Bacterial Growth
	Preparation Work	Source and course books, laboratory
11	Theoretical	Microbial metabolism



11	Laboratory	Methods of obtaining pure cultures
	Preparation Work	Source and course books, laboratory
12	Theoretical	Microbial ecology
	Laboratory	Methods of diagnostic tests
	Preparation Work	Source and course books, laboratory
13	Theoretical	Mutations
	Laboratory	Methods of diagnostic tests
	Preparation Work	Source and course books, laboratory
14	Theoretical	Microbial systematics
	Laboratory	Methods of diagnostic tests
	Preparation Work	Source and course books, laboratory
15	Theoretical	Microbial systematics
	Laboratory	Tanımlama test metotları
	Preparation Work	Source and course books, laboratory
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	1	2	42
Laboratory	14	1	2	42
Final Examination	1	15	1	16
Total Workload (Hours)				100
[Total Workload (Hours) / 25*] = ECTS				4

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	1. Can understand the fundamentals of general microbiology
2	2. Can show classification of microorganisms, their morphology, and descriptive characteristics.
3	3. May discuss on physiology and morphology of microorganisms.
4	4. May explain on Microbial Genetics and the basic concepts of related issues
5	5. Can explain microbial interaction to environmental or each other

Programme Outcomes (Agricultural Biotechnology)

1	To be able to develop skills in identifying, modeling and solving problems in agricultural biotechnology
2	To be able to synthesize life and engineering sciences for the effective resource planning of agricultural biotechnology applications
3	To be able to interpret about living organisms structure, metabolic and physiological processes in order to propose biotechnological solutions to the agricultural problems
4	To be able to analyze genomic, metabolomic and proteomic information via bioinformatic tools.
5	To have the ability to analyze collected data and interpret the results.
6	To have the ability of individual working ability and to make independent decisions, to work in inter-disciplinary and interdisciplinary teamwork, to communicate by expressing their ideas orally and in writing, clearly and concisely
7	To have the awareness of professional liabilities and ethics
8	To be able to follow current national and international problems

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	3	3	3	5	5
P2	5	5	5	5	5
P3	5	5	5	5	5
P4	3	3	3	4	3
P5	3	3	4	5	5
P6	5	5	5	5	5
P7	5	5	5	5	5
P8	5	5	5	5	5

