

BACTERIOFAGES

1	Course Title:	BACTERIOFAGES
2	Course Code:	VVR6019
3	Type of Course:	Optional
4	Level of Course:	Third Cycle
5	Year of Study:	1
6	Semester:	1
7	ECTS Credits Allocated:	2.00
8	Theoretical (hour/week):	1.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Doç. Dr. ARTUN YIBAR
15	Course Lecturers:	Yok
16	Contact information of the Course Coordinator:	Mail: artunyibar@uludag.edu.tr Tel: 02242941359 Adres: Bursa Uludağ Ün. Veteriner Fak. Besin Hijyeni ve Teknolojisi Anabilim Dalı
17	Website:	http://saglikbilimleri.uludag.edu.tr
18	Objective of the Course:	Information on the use and benefits of bacteriophages and their usage fields
19	Contribution of the Course to Professional Development:	Because of the aim of the course is to explain the use of bacteriophages, it will contribute to the knowledge of the graduates who will work in the sector and in the field.
20	Learning Outcomes:	
	1	Learning the definition of phages
	2	Learning of bacteriophages used in scientific field
	3	Understanding the properties of phages used in virology science
	4	Understanding of bacteriophage concepts and understanding the potential effects of phages in the field of use
	5	Learning the morphological features of bacteriophages
	6	Learning the serological properties of bacteriophages
	7	Understanding the mutation in bacteriophages
	8	Learning of phage infections
	9	Learning the use of phage in the laboratory
	10	Learning the considerations in working with bacteriophages in the laboratory
21	Course Content:	
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Week	Theoretical	Practice
1	What is bacteriophage?	
2	Structural properties of bacteriophages	
3	Classification of phages	

4	Serological characteristics of phages																																																																						
5	Proliferation of phages																																																																						
6	Adsorption and penetration																																																																						
7	Mutation in phage																																																																						
8	Phage infection types																																																																						
9	Locations and isolations of bacteriophages																																																																						
10	Counting bacteriophages																																																																						
11	Bacteriocins and their properties																																																																						
12	Bacteriophage and bacteriocins use in Virology science																																																																						
13	Problems caused by bacteriophages																																																																						
14	Future uses of bacteriophages ve bacteriosins																																																																						
22	Textbooks, References and/or Other Materials:	<p>Mc, G. S., & Sinderen, D. . (2007). Bacteriophage: Genetics and molecular biology. Norfolk, UK: Caister Academic Press.</p> <p>Ha"usler, T. (2008). Viruses vs. superbugs: A solution to the antibiotics crisis?. London: Macmillan.</p> <p>In Abedon, S. T. (2008). Bacteriophage ecology: Population growth, evolution, and impact of bacterial</p>																																																																					
Activites		<table> <tr> <th>Number</th><th>Duration (hour)</th><th>Total Work Load (hour)</th></tr> <tr> <td>Theoretical</td><td>Bacteriophages: Methods and Protocols.</td><td>14.00</td></tr> <tr> <td>Practicals/Labs</td><td>0</td><td>0.00</td></tr> <tr> <td>Self study and preperation</td><td>Calendar, Richard. (2012). The Bacteriophages. Springer Verlag.</td><td>2.00</td></tr> <tr> <td>Homeworks</td><td>0</td><td>0.00</td></tr> <tr> <td>Projects</td><td>0</td><td>0.00</td></tr> <tr> <td>Field Studies</td><td>Robert Dorit, Sondre M. Rey and Margaret A. Riley (2016)</td><td>0.00</td></tr> <tr> <td>Midterm exams</td><td>Prospects. Caister Academic Press.</td><td>0.00</td></tr> <tr> <td>Others</td><td>0</td><td>0.00</td></tr> <tr> <td>Final Exam</td><td>1</td><td>1.00</td></tr> <tr> <td>Total Work Load</td><td></td><td>57.00</td></tr> <tr> <td>Total work load/ 30 hr</td><td>1.9</td><td></td></tr> <tr> <td>Midterm Exam</td><td>0</td><td>0.00</td></tr> <tr> <td>ECTS Credit of the Course</td><td></td><td>2.00</td></tr> <tr> <td>Quiz</td><td>0</td><td>0.00</td></tr> <tr> <td>Home work-project</td><td>0</td><td>0.00</td></tr> <tr> <td>Final Exam</td><td>1</td><td>100.00</td></tr> <tr> <td>Total</td><td>1</td><td>100.00</td></tr> <tr> <td colspan="2">Contribution of Term (Year) Learning Activities to Success Grade</td><td>0.00</td></tr> <tr> <td colspan="2">Contribution of Final Exam to Success Grade</td><td>100.00</td></tr> <tr> <td colspan="2">Total</td><td>100.00</td></tr> <tr> <td colspan="2">Measurement and Evaluation Techniques Used in the Course</td><td>In order to determine the students' level of knowledge and skills in the field of Bacteriophages, a test is carried out as a final exam on UKEY as a measurement activity.</td></tr> <tr> <td>24</td><td colspan="2">ECTS / WORK LOAD TABLE</td></tr> </table>	Number	Duration (hour)	Total Work Load (hour)	Theoretical	Bacteriophages: Methods and Protocols.	14.00	Practicals/Labs	0	0.00	Self study and preperation	Calendar, Richard. (2012). The Bacteriophages. Springer Verlag.	2.00	Homeworks	0	0.00	Projects	0	0.00	Field Studies	Robert Dorit, Sondre M. Rey and Margaret A. Riley (2016)	0.00	Midterm exams	Prospects. Caister Academic Press.	0.00	Others	0	0.00	Final Exam	1	1.00	Total Work Load		57.00	Total work load/ 30 hr	1.9		Midterm Exam	0	0.00	ECTS Credit of the Course		2.00	Quiz	0	0.00	Home work-project	0	0.00	Final Exam	1	100.00	Total	1	100.00	Contribution of Term (Year) Learning Activities to Success Grade		0.00	Contribution of Final Exam to Success Grade		100.00	Total		100.00	Measurement and Evaluation Techniques Used in the Course		In order to determine the students' level of knowledge and skills in the field of Bacteriophages, a test is carried out as a final exam on UKEY as a measurement activity.	24	ECTS / WORK LOAD TABLE	
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25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	3	4	5	4	5	4	4	4	5	4	4	3	0	0	0	0
ÖK2	4	4	4	5	3	4	4	5	4	5	3	5	0	0	0	0
ÖK3	4	4	5	5	5	4	5	4	5	4	4	4	0	0	0	0
ÖK4	4	5	4	3	4	5	4	4	5	3	4	5	0	0	0	0
ÖK5	3	4	4	4	5	5	5	5	5	5	4	4	0	0	0	0
ÖK6	3	3	5	4	3	2	5	5	5	4	4	4	0	0	0	0
ÖK7	3	4	3	4	3	3	4	4	4	4	4	4	0	0	0	0
ÖK8	3	2	3	5	5	5	5	5	4	4	5	5	0	0	0	0
ÖK9	5	5	4	4	4	5	3	4	4	4	4	5	0	0	0	0
ÖK10	4	5	5	5	4	4	4	4	5	4	5	4	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	1 very low			2 low			3 Medium			4 High			5 Very High			