DIAGNOSTIC METHODS IN MICROBIOLOGY-I

1	Course Title:	DIAGNOSTIC METHODS IN MICROBIOLOGY-I	
2	Course Code:	TMK5002	
3	Type of Course:	Compulsory	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	2	
7	ECTS Credits Allocated:	5.00	
8	Theoretical (hour/week):	1.00	
9	Practice (hour/week):	4.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	To be successful in Diagnostic Methods in Microbiology I	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. Cüneyt ÖZAKIN	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	ozakin@uludag.edu.tr, 0224.2954115, Uludağ Üniversitesi tıp Fakültesi Temel Tıp Bilimleri Binası, Tıbbi Mikrobiyoloji Anabilim Dalı, 16059 Nilüfer, Bursa	
17	Website:		
18	Objective of the Course:	To learn about fast, automated identification and sensitivity test methods, systems, molecular diagnosis and epidemiological analysis techniques in microbiology and to make applications specific to their areas of use.	
19	Contribution of the Course to Professional Development:	Integrating theoretical knowledge with clinical laboratory practice.	
20	Learning Outcomes:		
		1	To know the methods used for diagnosis in microbiology,
		2	To be able to select and apply the appropriate diagnostic method for microbiological diagnosis
		3	To interpret the results obtained from the diagnostic methods
		4	To be able to compare microbiological diagnostic methods
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21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Direct Diagnosis in Microbiology- Microscopic Diagnosis; Light Microscopy and Electron Microscopy	Bacteriology: Plaque reading and simple definitions
2	Direct Diagnosis in Microbiology- Culture; Gram positive cocci and their identification	Bacteriology: Panel evaluation, biochemical properties

3	Direct Diagnosis in Microbiology- Culture; Gram negative bacilli and their definitions	Bacteriology: Maldi TOF MS
4	Direct Diagnosis in Microbiology- Culture; Gram positive bacilli and their definitions	Tüberküloz: Mikroskopi; Flouresan ve EZN boyama yöntemi
5	Direct Diagnosis in Microbiology- Culture; Gram positive bacilli and their definitions	Mikoloji: Mikroskopi, makroskopi, germ tüp ve şeker asimilasyon testleri
6	Direct Diagnosis in Microbiology- Nucleic Amplification	Parasitology: Microscopy, macroscopy and Trichrome staining
7	Direct Diagnosis in Microbiology- Hybridization	ELISA: Macro ELISA method
8	Maldi TOF MS method	ELISA: Micro ELISA and ELFA technique
9	Flow Cytometry Methods	Serology: Aglutination, indirect hemagglutination
10	Indirect Diagnosis in Microbiology- Antigen and Antibody	Serology: Complement fixation test, Nefolometric method
11	Indirect Diagnosis in Microbiology- Precipitation, Agglutination	Immunology: Flow cytometry
12	Indirect Diagnosis in Microbiology- Neutralization, Complement fixation test	Immunology: Autoantibodies
13	Indirect Diagnosis in Microbiology- Enzyme Immuno Assay (EIA, ELISA, ELFA)	PCR: Amplification
14	Indirect Diagnosis in Microbiology-	PCR: Real Time PCR

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	1.00	14.00
Practicals/Labs	14	4.00	56.00
Self study and preperation	14	2.00	28.00
Homeworks	2	15.00	30.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Others	0	0.00	0.00
Final Exams	1	20.00	20.00
Total Work Load			148.00
Total work load/ 30 hr			4.93
ECTS Credit of the Course			5.00

Materials:

Yolken RH (Eds). Manual of Clinical Microbiology 8th Edition ASM Press Washington DC (2003)

Handbook 2nd Edition. ASM Press Washington DC (2004)

3- Brooks GF, Carroll KC, Butel JS, Morse SA, Jawetz, McGraw-Hill Comp. USA (2007)

TERM LEARNING ACTIVITIES	NUMBE	WEIGHT
Midterm Exam	0	0.00
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	Classical exam is done.

24 ECTS / WORK LOAD TABLE

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	2	0	2	1	1	5	0	1	0	0	0	0	0	0	0	0
ÖK2	2	0	1	1	2	5	0	1	2	0	0	0	0	0	0	0
ÖK3	2	1	0	1	2	4	0	1	0	0	0	0	0	0	0	0
ÖK4	2	2	2	2	2	2	0	1	1	0	0	0	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	**1 very low**		**2 low**			**3 Medium**				**4 High**			**5 Very High**			