LABORATORY EQUIPMANTS

1	Course Title:	LABORATORY EQUIPMANTS	
2	Course Code:	TLTZ101	
3	Type of Course:	Compulsory	
4	Level of Course:	Short Cycle	
5	Year of Study:	1	
6	Semester:	1	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	4.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	No	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Doç. Dr. ELİF ERTÜRK BAKIR	
15	Course Lecturers:	-	
16	Contact information of the Course Coordinator:	Doç.Dr. Elif ERTÜRK Bursa Uludağ Üniversitesi, Sağlık Hizmetleri MYO, Görükle Kampüsü, Nilüfer/BURSA	
17	Website:		
18	Objective of the Course:	Teach the information and skills to use, maintain and clean the laboratory gadgets	
19	Contribution of the Course to Professional Development:	Usage of laboratory equipment is learned	
20	Learning Outcomes:		
		1	Prepare, use and clean the tools for solutions
		2	Make incubation
		3	Make sterilization
		4	Gain laboratory water
		5	Precipitate liquids
		6	Screen the objects impossible to see with eye with a microscope
		7	Assign matter amount by using light sources
		8	Assign matter amount by using automatic analyser
		9	Assign the amounts of special molecules
		10	Preserve texture, blood, serum etc.
21	Course Content:		
	Course Content:		
Week	Theoretical		Practice

1	Glass and plastic materials, to make material transfer with the aid of a micropipette and the glass pipette. To weigh article.	Introduction of glass and materials are used in the biochemistry laboratory, material transfer, weighing scales with the application materials
2	Methods of mixing the solution, cleaning of the pH meter, glass and plastic materials,	Concentration calculation, the sample solution preparation, pH measurement and making titration
3	Incubation methods	Introduction of materials used at the microbiology laboratory and incubation methods application. materials
4	Sterilization methods	Sterilization methods application
5	To obtain laboratory water	Using distilled water and deiyonize water apparatus and equipment
6	Precipitating fluids by means of centrifuges	Centrifugation of various liquids
7	Tto examine invisible objects-microscopic methods	Examination of the various preparations at microscope
8	Spectrophotometric and nephelometric methods	Spectrophotometric determination of the amount of matter and the standard curve graph plotting
9	Turbidimetric and fluorometric methods	Determination of amount of substance at nefelometer
10	Flame photometry and atomic absorption spectrometry methods	Determination of amount of substance at turbidimeter
11	Automatic Autoanalyzers (biochemistry, and hematology)	Using biochemistry and hematology autoanalyser and sample application
12	Chromatographic methods	Determination of the amount of substances with HPLC
13	Electrophoretic methods	Application of serum protein electrophoresis
14	Tissue, blood and serum storage methods	Storage of blood , serum and urine samples in the refrigator or deep freezer

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	14	4.00	56.00
Self study and preperation	14	5.00	70.00
Homeworks	0	0.00	0.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	12.00	12.00
Quiz	0	0.00	
Others	0	0.00	0.00
Final Exams	1	14.00	14.00
Total Work Load			192.00
Total work load/ 30 hr			6.00
ECTS Credit of the Course			6.00

W.B. Saunders Company; 1995.
3. Ravel R. Clinical Laboratory Medicine; Clinical

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exam	1	40.00
Quiz	0	0.00
Home work project	0	0.00
Final Exam	1	60.00
Total	2	100.00
Contribution of Term (Year) Learning Activities to		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00

Measurement and Evaluation Techniques Used in the Course	There is a midterm and a final exam in the form of a multiple choice test.

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	5	1	1	5	1	1	1	1	1	1	1	1	0	0	0	0

ÖK2	1	1	5	1	1	5	1	1	1	1	1	1	0	0	0	0
ÖK3	5	1	5	1	1	5	1	1	1	1	1	1	0	0	0	0
ÖK4	5	1	1	1	1	5	1	1	1	1	1	1	0	0	0	0
ÖK5	5	1	5	1	1	5	1	1	1	1	1	1	0	0	0	0
ÖK6	5	1	1	5	1	5	1	1	1	1	1	1	0	0	0	0
ÖK7	5	1	1	5	1	5	1	1	1	1	1	1	0	0	0	0
ÖK8	5	1	1	5	1	5	1	1	1	1	1	1	0	0	0	0
ÖK9	5	1	1	5	1	5	1	1	1	1	1	1	0	0	0	0
ÖK10	5	5	1	1	1	1	1	1	1	1	1	1	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**