APPLIED BIOCHEMISTRY

1	Course Title:	APPLIED BIOCHEMISTRY
2	Course Code:	BYL4050
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	8
7	ECTS Credits Allocated:	4.00
8	Theoretical (hour/week):	1.00
9	Practice (hour/week):	2.00
10	Laboratory (hour/week):	0
11	Prerequisites:	NOne
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Doç. Dr. EGEMEN DERE
15	Course Lecturers:	Doç. Dr. Ferda ARI
16	Contact information of the Course Coordinator:	Uludağ Üniversitesi Fen-Edebiyat Fakültesi Biyoloji Bölümü Görükle Kampüsü, Nilüfer/BURSA 16059 e-posta: yhikmet@uludag.edu.tr Telefon: 0 224 294 17 92 Uludag University Faculty of Arts and Science Department of Biology Gorukle Campus, Nilufer/BURSA 16059 e-mail: yhikmet@uludag.edu.tr Phone: 0 224 294 17 92
17	Website:	
18	Objective of the Course:	Aim of the course is to ensure that students understand the clinical biochemistry. The goal of course is understanding of usage areas of biochemistry in the hospital laboratories. Understanding methods of spectrophotometric, colorimetric and recognizing equipment used to these areas. Showing analysis of various organic and inorganic materials, qualitative and quantitative analysis of proteins, physical analysis of urine. Showing blood analysis and methods of taking blood.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	To learn devices that ara being used in laboratories
	2	To understand the usage areas of biochemistry in the hospital laboratories
	3	To understand the results of analyses
	4	To know how to deal with intended revisals
	5	To learn teqniques of blood and urine-letting
	6	To be able to compare other laboratory practices
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21	Course Content:

Course Content:

Week	Theoretical	Practice
1	Biochemical test tecniques (qualitative and quantitative tests). Chemical agents, kits, purified water	
2	Methods of spectrophotometric (UV/VIS, NMR, IR Raman, Mass)	
3	Methods of chromatographic (HPLC, gas, adsorption, ion exchange, partition, absorption, flame photometry)	
4	Immunologic and other methods (RIA, ELISA, , Turbidimetry, Nefalometry, conductometry, refractometry, coagulometry)	
5	Showing devices in different laboratories	
6	Excretory system and the formation of urine, analyses of urine (urine-letting and preservation) Macroscopic analysis of urine (appearance, density, pH, colour, smell)	
7	Microscopic analysis of urine (erythrocytes, leucocytes, epithelial cells, crystals)	
8	Exam and answer of examination questions, general discussion	
9	Examination of nitrite, glucose, ketone bodies, bilirubin, urobilinogen, urea, uric acid, creatinin, hippuric acid in urine	
10	Hemogram, leucocyt formula, examination of erythrocytes, haemorrhages and blood	
11	Plasma lipids, cholesterol in blood,	
12	Enzymatical analyses, SGOT, SGPT, LDH, GGT, CK, Serum phosphatases (Acid amylase, lipase	
13	Kidney clearance tests, stool analyses, occult	
14	Textbooks, References and/or Other	Applied Biochemistry textbook, Yrd.Doç.Dr. Ferman Clinic Biochemistry, Prof Dr. Kazım ARAS Laboratuar handbook,at clinic biochemistry, Aktif press

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	4	6.00	24.00
Homeworks	1	14.00	14.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	3.00	3.00
Others	8	6.00	48.00
Final Exams	1	3.00	3.00
Total Work Load			120.00
Total work load/ 30 hr			4.00
ECTS Credit of the Course			4.00

23	Assesment

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exam	1	30.00
Quiz	0	0.00
Home work-project	1	20.00
Final Exam	1	50.00
Total	3	100.00
Contribution of Term (Year) Learning Activities to Success Grade		50.00
Contribution of Final Exam to Success Grade		50.00
Total		100.00

Measurement and Evaluation Techniques Used in the Course	

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	1	0	1	4	0	1	4	0	2	1	0	0	0	0	0	0
ÖK2	3	0	1	3	0	1	3	0	2	1	0	0	0	0	0	0
ÖK3	4	0	2	2	0	1	5	0	1	1	0	0	0	0	0	0
ÖK4	4	0	2	3	0	1	5	0	2	1	0	0	0	0	0	0
ÖK5	2	0	2	3	0	1	4	0	2	1	0	0	0	0	0	0
ÖK6	1	0	1	2	0	1	2	0	1	1	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**						