URINE ANALYSIS AND INTERPRETATION

1	Course Title:	URINE ANALYSIS AND INTERPRETATION
2	Course Code:	VBK6004
3	Type of Course:	Optional
4	Level of Course:	Third Cycle
5	Year of Study:	1
6	Semester:	2
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:	
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. Ümit Polat
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	Prof. Dr. Ümit Polat upolat@uludag.edu.tr 41283 B.U.Ü. Veteriner Fak. Biyokimya ABD. Bursa
17	Website:	
18	Objective of the Course:	Being able to define urine analyses used to diagnose many diseases, urine formation; being able to comprehend and evaluate physiological and pathological conditions.
19	Contribution of the Course to Professional Development:	Learning the mechanism of urine formation in living organisms, urine analysis and changes in diseases
20	Learning Outcomes:	

	1	Being able to apply urine collection techniques.
	2	Comprehension of effects of substances used to preserve urine on analysis results.
	3	Ability to define physical observation methods of urine and apply
	4	Ability to apply methods used to measure glucose and protein levels in urine.
	5	Being able to perform microscopic examination of urine and interpret results
	6	Ability to make connections between laboratory results and various disease states.
	7	Ability to reach novel analysis methods.
	8	Ability to apply new knowledge gained and disseminate
	9	
	10	

21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Collection of urine samples and methods to preserved when needed.	Collection of urine samples from various animal species

2	Physical examination of urine, its importance and interpretation.	Physical examination of urines obtained from various animal species.
3	Formation of albuminuria, types, clinical significance and analysis methods.	Determination of albuminuria, interpretation of analysis results
4	Detection of glucose in urine, etiology of glucosuria	Conducting qualitative and quantitative glucose tests in urine
5	Clinical significance of acetone presence.	Determination of acetone in urine
6	Test of bilirubin and clinical significance.	Evaluation of urine analyses
7	Test of bile acids and clinical significance	Evaluation of urine analyses
8	Indican test, determination of chloride levels.	Conducting bile acid test in urine and chloride measurement.
9	Microscopic examination of urine and preparation.	Preparation methods for urine microscopic examination and microscope use
10	Inorganic sediments observed in acidic urine.	Detection of inorganic sediments in acidic urine
11	Inorganic sediments observed in alkaline urine.	Detection of inorganic sediments in alkaline urine.
12	Evaluation of urine analysis results based on diseases.	Evaluation of urine analysis results based on diseases.
13	Evaluation of urine analysis results based on diseases. .	Evaluation of urine analysis results based on diseases
14	Comparison of normal and pathological urine samples.	Comparison of tests performed in normal and pathological urine samples
22	Textbooks, References and/or Other Materials:	N. A. Brunzel, Fundamentals of Urine and Body Fluid Analysis, 2004

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	1.00	14.00
Practicals/Labs	14	2.00	28.00
Self study and preperation	14	4.00	56.00
Homeworks	0	0.00	0.00
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	22.00	22.00
Total Work Load			120.00
ECTS Credit of the Course			4.00

Measurement and Evaluation Techniques Used in the Course	Measurement and evaluation are performed according to the Rules & Regulations of Bursa Uludağ University on Undergraduate Education.

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	1	2	1	1	4	1	2	1	1	1	1	0	0	0	0
ÖK2	1	1	1	1	1	3	0	1	1	1	1	1	0	0	0	0
ÖK3	2	2	1	1	1	5	1	1	1	1	1	1	0	0	0	0

ÖK4	1	1	0	1	0	4	0	1	1	1	1	1	0	0	0	0
ÖK5	1	2	1	1	1	4	1	1	1	1	1	1	0	0	0	0
ÖK6	1	1	3	4	1	1	0	1	2	1	1	2	0	0	0	0
ÖK7	1	1	1	0	4	0	1	1	3	1	1	1	0	0	0	0
ÖK8	2	1	0	1	1	1	1	2	1	1	3	2	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

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