

PHYSICAL PROPERTIES OF BIOLOGICAL MATERIALS

1	Course Title:	PHYSICAL PROPERTIES OF BIOLOGICAL MATERIALS	
2	Course Code:	BSM2815	
3	Type of Course:	Compulsory	
4	Level of Course:	First Cycle	
5	Year of Study:	2	
6	Semester:	3	
7	ECTS Credits Allocated:	4.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	1.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	none	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Doç.Dr. NAZMI İZLİ	
15	Course Lecturers:	Doç.Dr. Nazmi İZLİ	
16	Contact information of the Course Coordinator:	e-posta : nizli@uludag.edu.tr Telefon: 0 224 2941604 Adres: Uludağ Üniversitesi, Ziraat Fakültesi, Biyosistem Mühendisliği Bölümü, Görükle	
17	Website:		
18	Objective of the Course:	Physical properties of biological materials (size, volume, surface area, density, void ratio, etc.), Figure deformation, viscoelastic behavior, Thermal properties, aerodynamic and hydrodynamic properties, electrical and optical properties, describe the rheological properties.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Biological material physical properties (size, volume, surface area, density and void ratio, etc.)
		2	Figure deformation
		3	Viscoelastic behavior
		4	The aerodynamic and hydrodynamic properties
		5	Electrical and optical properties
		6	Behavior under vacuum
		7	The image processing technique
		8	
		9	
		10	
21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	
1	Introduction	In the laboratory, size measurement mechanisms explaining	
2	Material Concept	Specific gravity, density, volume measurement setups communication	

3	Biological Material	Humidity measurement setups communication.
4	Mechanical Properties	Description of the measurement mechanisms of friction and rolling resistance.
5	Rheological Equations	Explaining the vacuum measurement setups.
6	Rheological Equations	Explaining microwave measurement setups
7	Midterm Exam, repetition of course	Description of Rheological Properties of measurement setups
8	Rheological Equations	Description of Rheological Properties of measurement setups
9	Some measurements on biological materials	Explaining the critical speed measurement setups
10	Sample Solutions	Sample Solution
11	Some measurements on biological materials	to describe the mechanical resistance measurement setups
12	Some measurements on biological materials	Sample Solution
13	Some measurements on biological materials	to describe the optical properties of measurement setups
14	Some measurements on biological materials	Sample Solution

22	Textbooks, References and/or Other Materials:	1. Işık,E., Biyolojik Malzemenin Teknik Özellikleri U.Ü.Z.F Basımevi, , BURSA 2. KLEISINGER.S.,1978. Verfahrenstechniken zum Aufsammlen von Kernobst for die Weiterverarbeitung.MEG-
----	---	---

Activities		Number	Duration (hour)	Total Work Load (hour)
Theoretical	Vollernemaschinen für Johannisbessereen. Erwerbsobstbau Band 18 No:1 S:1-5	14	2.00	28.00
Practicals/Labs		14	2.00	28.00
Self-Study/Assessment		14	1.00	14.00
Homeworks		1	20.00	20.00
Projects		0	0.00	0.00
Midterm Exam		1	25.00	25.00
Field Studies		0	0.00	0.00
Midterm exams		1	20.00	20.00
Home work project		1	15.00	15.00
Others		0	0.00	0.00
Final Exam		1	30.00	30.00
Final Exams		1	30.00	30.00
Total		2	100.00	100.00
Total Work Load				146.00
Contribution of Term (Year) Learning Activities to Success Grade				4.20
ECTS Credit of the Course				4.00

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	4	2	3	2	3	3	3	4	5	2	2	4	0	0	0	0
ÖK2	4	2	3	5	3	3	3	4	5	4	3	3	0	0	0	0

ÖK3	3	3	3	3	5	3	3	5	4	4	3	5	0	0	0	0
ÖK4	4	5	5	3	5	4	2	4	5	5	5	4	0	0	0	0
ÖK5	4	5	4	3	5	3	3	4	3	3	4	4	0	0	0	0
ÖK6	5	5	3	3	3	5	3	4	3	4	2	4	0	0	0	0
ÖK7	4	5	4	3	5	5	3	5	3	3	4	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			