TRACE ELEMENTS IN FOODS AND THEIR IMPORTANCE

1	Course Title:	TRACE ELEMENTS IN FOODS AND THEIR IMPORTANCE	
2	Course Code:	GMB5339	
3	Type of Course:	Optional	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	1	
7	ECTS Credits Allocated:	6.00	
8	Theoretical (hour/week):	3.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	None	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. YASEMİN ŞAHAN	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	Uludağ Üniversitesi Ziraat Fakültesi Gıda Mühendisliği Bölümü 16059 Görükle/Bursa Tel: 0224 2941502 Fax: 0224 2941402 e-posta: yasemins@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	Trace elements have a great significance for their nutritional and toxic properties. They are important for both health and quality of food which is very important for the preservation. To give information about structures of trace elements in metabolism, efficacy and quality loss in foods that may cause the amount of food for the identification and disclosure of preventive	
19	Contribution of the Course to Professional Development:	The student learns the food-health relationship in particular trace elements and uses this knowledge in her profession.	
20	Learning Outcomes:		
		1	Basic information about trace elements in foods
		2	Detecting trace elements in foods
		3	Nutritional and toxic properties and biochemical properties of some important trace elements in foods
		4	Legal regulations regarding some trace elements in foods
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21	Course Content:		
	Course Content:		

Week	Theoretical	Practice
1	Metals in the life cycle	
2	Metals in the life cycle	
3	Metals in food and diet	
4	Techniques of metal analysis	
5	Practical measurement of metal analysis in ICP-MS, ICP-OES and AAS	
6	Practical measurement of metal analysis in ICP-MS, ICP-OES and AAS	
7	The importance of iron in diet	
8	The importance of zinc in diet	
9	The importance of copper in diet	
10	The importance of selenium in diet	
11	Chromium	
12	Manganese	
13	Molybdenum	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	4.00	56.00
Homeworks	2	20.00	40.00
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	40.00	40.00
Total Work Load			178.00
Total work load/ 30 hr			5.93
ECTS Credit of the Course			6.00

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Quiz	0	0.00
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		Homework and final exam have an equal effect on the evaluation of this 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	5	5	4	5	4	5	4	5	5	5	0	0	0	0	0	0
ÖK2	5	5	5	5	5	5	5	5	4	5	0	0	0	0	0	0
ÖK3	5	5	3	5	3	5	3	5	5	5	0	0	0	0	0	0
ÖK4	5	4	4	5	3	5	3	5	5	5	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**