BORON CHEMISTRY

1	Course Title:	BORON CHEMISTRY
2	Course Code:	KIM6029
3	Type of Course:	Optional
4	Level of Course:	Third Cycle
5	Year of Study:	2
6	Semester:	3
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. RAHMIYE AYDIN
15	Course Lecturers:	yok
16	Contact information of the Course Coordinator:	Uludağ Üniversitesi Fen-Edebiyat Fakültesi Kimya Bölümü, 16059, BURSA rahmiye@uludag.edu.tr Tel: 0 (224) 2941729
17	Website:	
18	Objective of the Course:	To teach chemical and physical properties and application areas of boron compounds
19	Contribution of the Course to Professional Development:	It provides theoretical and practical knowledge in the field of boron chemistry.
20	Learning Outcomes:	

	1	Recognizes boron compounds.
	2	Learns chemical and physical properties of boron compounds
	3	Learns application areas of boron compounds.
	4	
	5	
	6	
	7	
	8	
	9	
	10	

21 Course Content:

Course Content:

Week	Theoretical	Practice
1	Introduction to the Chemistry of Boron-Physical and Chemical Properties of Boron Element	
2	Boron Minerals, Industrial Importance of Boron and Uses, Boron Mining in the World and Turkey.	
3	Boron Compounds-Borates: Inorganic Borates, Organic Borates	

4	Boron halides: Boron monohalides, Boron dihalide, Boron trihalides	
5	Classification of borone, Bonding in Boranes and Topology,	
6	Synthesis and Reactions of Boranes.	
7	Borane anions, Metalloboranes	
8	Carboranes, Structure and Synthesis of Carboranes.	
9	The repetition of the previous course and Midterm	
10	Carborane Super Acids	
11	Metallocarboranes and Synthesis	
12	The other Boron Compounds: boron carbide, boron nitride, Borazines, borophosphate	
13	Organo Boron Compounds	
14	Boranes as Ligands and Boron Complexes.	

22	Textbooks, References and/or Other Materials:	1. Anorganik Kimya, D.F. Shriver, P.W. Atkins, C.H. Langford, (Çeviri Editörleri: Özkar, S., Çetinkaya, B., Gül, A., Gök, Y.) Bilim Yayincilik-Ankara, 2003. 2. İnorganik Kimya, G. L. Miessler, and D. A. Tarr, Çeviri Editörleri: N. Karacan ve P. Gürkan, Palme Yayıncılık, 2002.
23	Assesment	

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Field Study	14	2.00	28.00
Homeworks	2	10.00	20.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	40.00	40.00
Others	0	0.00	0.00
Final Exams	1	50.00	50.00
Total Work Load			220.00
Total work load/ 30 hr			6.00
ECTS Credit of the Course			6.00

Quiz	0	0.00
Laboratory and preperation	1	60.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Measurement and Evaluation Techniques Used in the Course		Written exams and presentation

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