REACTIVE INTERMEDIATES IN ORGANIC CHEMISTRY

1	Course Title:	REACTIVE INTERMEDIATES IN ORGANIC CHEMISTRY
2	Course Code:	KIM5045
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. GANİ KOZA
15	Course Lecturers:	Prof. Dr. Necdet COŞKUN Prof. Dr. Mustafa TAVASLI
16	Contact information of the Course Coordinator:	ganikoza@uludag.edu.tr +90 224 27 55 083 Uludağ Üniversitesi, Fen-Edebiyat Fakültesi, Kimya Bölümü, 16059 Görükle / BURSA, TÜRKİYE
17	Website:	
18	Objective of the Course:	The aim of this course is to gain and teach students Carbocations, Carbens, Azetures, Nitrenes, Free Radicals, Singlet Oxygen and the formation and reaction of them.
19	Contribution of the Course to Professional Development:	Recognize the intermediate products formed in organic reactions and make comments about the products formed.
20	Learning Outcomes:	
	1	The student will learn the structure, stability, formation and reactions of carbocations
	2	The student will know many named rearrangement reaction involving carbocation formation
	3	The student will learn structure and reactivity of carbenes, synthesis and reaction of carbenes
	4	The student will learn structure of azetures and nitrenes and formation and reactions of them
	5	The student will learn structure of free radicals and reactions of them
	6	The student will learn basic information about obtaining and reactions of singlet oxygen
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21	Course Content:	

Course Content:

Week	Theoretical	Practice

1	Structure and stability of carbocations Formation and determination of carbocations Reactions of carbocations	
2	Rearrangement of carbocations: Wagner-Meerwein rearrangement. Classical carbocations	
3	Non-classical carbocations	
4	Structure and reactivity of carbens	
5	Synthesis and reactions of carbens	
6	Rearrangement of carbens	
7	Midterm Exam	
8	Structure and formation of azetures and nitrenes	
9	Curtius and Schmidth rearrangement	
10	Lesson and Hofmann rearrangement	
11	Cycloaddition reaction of nitrenes	
12	Structure and stability of free radicals	
13	Formation and reactions of free radicals	
14	Production and reactions of singlet oxygens	

22	Textbooks, References and/or Other Materials:	1) Organic Chemistry, Jonathan Clayden, Nick Greeves, Stuart Warren, Peter Wothers, Oxford Chemistry Primer, 2001

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Midterm Exam	1	20.00	
Self study and preperation	14	3.00	42.00
Homeworks	6	8.00	48.00
Home work-project	1	20.00	
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Total	3	100.00	
Midterm exams	1	23.00	23.00
Others	0	0.00	0.00
Final Exams	1	25.00	25.00
Contribution of Final Exam to Success Grade	60.00		
Total Work Load			180.00
Total	100.00		
Total work load/ 30 hr			6.00
ECTS Credit of the Course			6.00

TERM LEARNING ACTIVITIES	**NUMBE**	**WEIGHT**
Midterm Exam	1	20.00
Home work-project	1	20.00
Final E	1	20.00
Contribution of Term (Year) Learning Activities to		40.00

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	4	4	3	3	4	4	5	5	4	0	0	0	0	0	0
ÖK2	5	4	3	3	4	3	5	4	3	3	0	0	0	0	0	0
ÖK3	4	3	5	3	4	3	4	4	3	4	0	0	0	0	0	0
ÖK4	4	5	4	5	3	4	4	5	4	5	0	0	0	0	0	0

ÖK5	4	3	5	4	3	4	5	3	4	4	0	0	0	0	0	0
ÖK6	4	5	4	2	4	5	4	5	3	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**