ADVANCED HETEROCYCLIC CHEMISTRY

1	Course Title:	ADVANCED HETEROCYCLIC CHEMISTRY	
2	Course Code:	KIM5055	
3	Type of Course:	Optional	
4	Level of Course:	Third 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:	Organic Chemistry I and II courses	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. GANİ KOZA	
15	Course Lecturers:	Prof. Dr. Necdet COŞKUN Doç. Dr. Nevin ARIKAN ÖLMEZ Dr. Öğr. Üyesi Meliha ÇETİN KORUKÇU	
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 introduce heterocyclic compounds which are one of the basic groups of organic chemistry. To teach the synthesis and reactions of heterocyclic structures and their biological activities.	
19	Contribution of the Course to Professional Development:	Recognize the structures of heterocyclic compounds. Learns synthesis, reactions and biological activities of these structures.	
20	Learning Outcomes:		
		1	The student will recognize the heterocyclic compounds.
		2	The student will learn aromatic and non-aromatic heterocyclic compounds.
		3	The student will learn the structures of aromatic heterocyclic compounds.
		4	The student will learn the synthesis of aromatic heterocyclic compounds.
		5	The student will learn the reactions of aromatic heterocyclic compounds.
		6	The student will learn about bioactive heterocyclic compounds.
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21	Course Content:		

Course Content:

Week	Theoretical	Practice

1	Three- and four-memberd non-aromatic heterocyclic compounds: nomenclature, structure, synthesis, reactions and medicinal uses	
2	Five- and six-memberd non-aromatic heterocyclic compounds: nomenclature, structure, synthesis, reactions and medicinal uses	
3	Pyrrole, Furan and Thiophene: structure, synthesis, reactions and medicinal uses	
4	Imidazole, Oxazole and Thiazole: structure, synthesis, reactions and medicinal uses	
5	Pyrazole, Isoxazole and Isothiazole: structure, synthesis, reactions and medicinal uses	
6	Indole: structure, synthesis, reactions and medicinal uses	
7	Benzofuran and Benzothiophene: structure, synthesis, reactions and medicinal uses	
8	Pyridine, Quinoline and Isoquinoline: structure, synthesis, reactions and medicinal uses	
9	Purine and Pyrimidine: structure, synthesis, reactions and medicinal uses	
10	Triazine and Tetrazine: structure, synthesis, reactions and medicinal uses	
11	Acridine and Coumarin: structure, synthesis [illegible]	
13	Spiro heterocyclic compounds: structure, synthesis, reactions and medicinal uses	
14	Poly heterocyclic compounds: structure, synthesis, reactions and medicinal uses	
22	Textbooks, References and/or Other Materials:	1) Progress in Heterocyclic Chemistry, Book Series, Elsevier 1989-2021 [illegible] Quin, John A. Tyrell, Wiley 2010 3) Modern Heterocyclic Chemistry, Julio Alvarez-Builla, [illegible] 4) Heterocyclic Chemistry, Malcolm Sainsbury, The Royal Society of Chemistry 2001
23	Assesment	

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Midterm Exam	1	20.00
Quiz	0	0.00
Home work-project	1	20.00
Final Exam	1	60.00
Total	3	100.00
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		Homeworks and written exams

24	**ECTS / WORK LOAD TABLE**

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	3.00	42.00
Homeworks	6	8.00	48.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	23.00	23.00
Others	0	0.00	0.00
Final Exams	1	25.00	25.00
Total Work Load			180.00
Total work load/ 30 hr			6.00
ECTS Credit of the Course			6.00

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	4	5	4	4	3	4	4	5	3	0	0	0	0	0	0
ÖK2	5	4	5	4	4	3	4	4	5	3	0	0	0	0	0	0
ÖK3	5	4	4	4	4	3	5	4	5	4	0	0	0	0	0	0
ÖK4	4	4	3	4	5	3	4	4	4	4	0	0	0	0	0	0
ÖK5	4	5	3	4	5	3	4	4	4	4	0	0	0	0	0	0
ÖK6	4	5	3	4	5	3	4	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**			