SEPERATION AND PURIFICATION TECHNIQUES IN ORGANIC CHEMISTRY

1	Course Title:	SEPERATION AND PURIFICATION TECHNIQUES IN ORGANIC CHEMISTRY	
2	Course Code:	KIM5029	
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:	Doç.Dr. NEVİN ARIKAN ÖLMEZ	
15	Course Lecturers:	Prof.Dr.Mustafa Tavaslı	
16	Contact information of the Course Coordinator:	narikan@uludag.edu.tr Tel: 0 (224) 294 1731 Uludağ Üniversitesi Fen-Edebiyat Fakültesi Kimya Bölümü, Görükle/BURSA 16059	
17	Website:		
18	Objective of the Course:	The aim of the course is to provide theoretical and practical skills to master students with laboratory techniques used in organic chemistry.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	Developing of the knowledge and experience about the isolation of the product after organic synthesis
		2	Increasing of the info and accumulation about organic synthesis
		3	Earning the ability to crack against to problems that could occur in thesis works of the students studied master science in organic chemistry.
		4	Developing the organic chemistry laboratory culture and skill
		5	
		6	
		7	
		8	
		9	
		10	
21	Course Content:		
	Course Content:		
Week	Theoretical	Practice	

1	Synthesis of organic compounds -Planning of the reaction -Set up of installation -Reaction completion	
2	Filtering techniques -Classificiation of filtering techniques -Materials used in filtering techniques -Applications of filtering techniques	
3	Crystallization -Crystallization steps -Solvents used in crystallization and selection of the solvent -Applications of crystallization technique	
4	Distillation -Classification of distillation techniques -Differents between of the distillation techniques -Applications of distillation techniques	
5	Sublimation and Extraction -Formation conditions of sublimation -Samples and applications to the sublimated compounds -Classification of extraction techniques -Solvents used in extraction and selection of the solvent	
6	Chromatographic techniques -Column chromatography technique -Adsorbents and moving phases used in	

Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical	-Thin layer chromatography technique -Adsorbents and moving phases used in thin	14	3.00	42.00
Practicals/Labs		0	0.00	0.00
Self study and preperation	-Application of thin layer chromatography	14	1.00	14.00
Homeworks		0	0.00	0.00
Projects	techniques	0	0.00	0.00
Field Studies		0	0.00	0.00
Midterm exams	-Theory of Gas chromatography (GC) technique	1	48.00	48.00
Others		0	0.00	0.00
Final Exams	-GC apparatus and applications	1	72.00	72.00
10	Chromatographic techniques			
Total Work Load				176.00
Total work load/ 30 hr	-Adsorbents and moving phases used in HPLC			5.87
ECTS Credit of the Course				6.00

11	Drying -Drying process and bringing to constant weigh -Equipments used in drying process -Applications of drying process	
12	Determination of physical properties -Central physical properties of organic compounds -Variations of the physical properties of organic compounds -Determination of melting point and the relationship between melting point and purity	

13	Optical activity -Description of optical activity -Which compounds are optical active? -Chirality and samples to compounds contained chiral carbon -Enantiomerism and samples to the compounds shown enantiomer property -Diastereomerism and samples to the compounds shown diastereomer property -Meso compounds	
14	Specific angle of rotation -Description of the specific angle of rotation -Factors that affect angle of rotation -Experimental determination of the specific angle of rotation	

22	Textbooks, References and/or Other Materials:	1) Techniques and experiments for organic chemistry. Addison Ault 2) Organic chemistry microscale laboratory techniques. R. Wooley, D. Shelley, B. Hinshaw 3) Laboratory techniques for organic chemistry.Ralph J. Fessenden, Joan S. Fessenden

23 Assesment

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	1	40.00
Quiz	0	0.00
Home work-project	0	0.00
Final Exam	1	60.00
Total	2	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		

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	5	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0
ÖK3	5	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0
ÖK4	5	5	0	0	0	0	0	0	0	0	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**