



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Synthesis Technics and Organic Analysis							
Course Code		KİM525		Couse Level		Second Cycle (Master's Degree)			
ECTS Credit	6	Workload	194 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives 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							
Course Content		Basic laboratory procedures used in organic chemistry.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Problem Solving					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

1	Furniss, B.S., Practical Organic Chemistry, New York, 1991.
2	Sharp J.T., Practical Organic Chemisrty; Chapman & Hall, London, 1991

Week	Weekly Detailed Course Contents	
1	Theoretical	Synthesis of organic compounds-Planning of the reaction-Set up of installation-Reaction completion
2	Theoretical	Filtering techniques-Classification of filtering techniques-Materials used in filtering techniques-Applications of filtering techniques
3	Theoretical	Crystallization-Crystallization steps-Solvents used in crystallization and selection of the solvent-Applications of crystallization technique
4	Theoretical	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
5	Theoretical	Chromatographic techniques-Column chromatography technique-Adsorbents and moving phases used in Column chromatography-Application of column chromatography
6	Theoretical	Chromatographic techniques-Thin layer chromatography technique-Adsorbents and moving phases used in thin layer chromatography-Application of thin layer chromatography
7	Theoretical	Chromatographic techniques- Paper chromatography theory and techniques
8	Theoretical	Topic review and Midterm exam
9	Intermediate Exam	Chromatographic techniques-Theory of Gas chromatography (GC) technique-Adsorbents and moving phases used in GC-GC apparatus and applications
10	Theoretical	Chromatographic techniques-Theory of HPLC technique-Adsorbents and moving phases used in HPLC-HPLC apparatus and applications
11	Theoretical	Chromatographic techniques-Theory of HPLC technique-Adsorbents and moving phases used in HPLC-HPLC apparatus and applications
12	Theoretical	Drying-Drying process and bringing to constant weigh-Equipments used in drying process-Applications of drying process
13	Theoretical	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	Theoretical	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

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Term Project	1	40	0	40



Reading	14	2	0	28
Midterm Examination	1	40	2	42
Final Examination	1	40	2	42
Total Workload (Hours)				194
[Total Workload (Hours) / 25*] = ECTS				8
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	to be able to develop the knowledge and experience about the isolation of the product after organic synthesis
2	to be able to acquire knowledge and accumulation about organic synthesis
3	to be able to gain the ability to crack against to problems that could occur in thesis works of the students studied master science in organic chemistry.
4	to be able to develop the organic chemistry laboratory culture and skill
5	To be able to determination of purification processes.

Programme Outcomes (Chemistry Master)

1	To be able to gain proficiency in depths and analysis by statistical methods in the same or a related area depending on the undergraduate competence,.
2	To be able to use the knowledge of his/her field and the skills to solve problems and/or applications in interdisciplinary research.
3	To be able to adopt to evaluate the information and skill his/her field by critical approach.
4	To be able to evaluate the effect of important persons, case and fact on his/her field applications.
5	To be able to gain the ability to discuss write and orally present to a group of literate listener.
6	To be able to communicate orally and written in a foreign language at least at European language B2 level.
7	To be able to use computer programs related to his/her field and have skills for informatics communication.
8	To be able to be careful in protecting social, scientific and cultural ethics in collection data, application and presentation.
9	To be able to develop strategic, political and application plans in his/her field and may evaluate the outcomes in quality periods.

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P1	4	4	4	4	4
P2	5	5	5	5	5
P4	4	4	4	4	4
P5	4	4	4	4	4
P6	3	3	3	3	3
P7	3	3	3	3	3
P9	2	2	2	2	2

