



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Chromatography and Application Fields.							
Course Code		VBY638		Course Level		Third Cycle (Doctorate Degree)			
ECTS Credit	3	Workload	80 (Hours)	Theory	1	Practice	2	Laboratory	0
Objectives of the Course		Chromatography equipment to teach the working principle, show areas of use, acquire the ability to apply theoretical knowledge to practice.							
Course Content		Thin layer chromatography, colon chromatography, paper chromatography, high performance likid chromatography,							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Experiment, Demonstration					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	60
Quiz	2	10
Assignment	2	10

Recommended or Required Reading

1	Chromatography and separation science (Ahuja, Satinder)
2	Handbook of derivatives for chromatography

Week	Weekly Detailed Course Contents	
1	Theoretical	Chromatography theory, basic principles and definitions
	Practice	Demonstration of central laboratory
2	Theoretical	History of chromatography
	Practice	Demonstration of laboratory equipments
3	Theoretical	Technical specifications
	Practice	Preparation of implementation plan
4	Theoretical	Error sources, advantages and disadvantages
	Practice	Preparation of used tools and equipment
5	Theoretical	Principles of chromatography application
	Practice	Preparation of columns
6	Theoretical	Using areas
	Practice	Application
7	Theoretical	Advantages of it
	Practice	Application
8	Practice	Demonstration of HPLC
	Intermediate Exam	Midterm exam
9	Theoretical	Disadvantages of it
	Practice	Preparation for HPLC
10	Theoretical	Affinity chromatography
	Practice	Calibration
11	Theoretical	Thin layer chromatography
	Practice	Application
12	Theoretical	High performance liquid chromatography
	Practice	Application
13	Theoretical	Gas chromatography
	Practice	Discussion of results
14	Theoretical	Use it in research



14	Practice	Discussion
15	Theoretical	Discussion of results Ion-exchange chromatography
	Practice	Homework control
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	15	1	1	30
Lecture - Practice	15	0	2	30
Midterm Examination	1	9	1	10
Final Examination	1	9	1	10
Total Workload (Hours)				80
[Total Workload (Hours) / 25*] = ECTS				3

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To learn basic principle of chromatography.
2	To show its using areas.
3	To gain ability to using theoretical knowledge in practice
4	To learn the sources of error of chromatography devices
5	To learn the advantages and disadvantages of chromatography devices

Programme Outcomes (Biochemistry (Veterinary Medicine) Doctorate)

1	Has a deep and broad knowledge about the field and the interdisciplinary area related with the field through the achievements gained in undergraduate and professional levels.
2	Has the knowledge to create original ideas, analyze them and develop definition/product/diagnosis methods by using the knowledge gained in undergraduate and/or professional experience, when needed.
3	Is knowledgeable about theories and practices in methodological and scientific research methods to run an independent research.
4	Excels in the laboratory, clinical and similar fields by using the theoretical and practical information gained in former education, and has the ability to create solutions in related fields.
5	Designs and develops scientific methodology for the advanced level/newly defined/emerged problems about the field.
6	Excels in the known scientific methods in the field for the advanced level/ newly defined/emerged problems.
7	Designs unique researches and implements independently.
8	Analyzes, synthesizes and evaluates the new ideas in related fields by using critical thinking.
9	Plans, creates teams and carries out the interdisciplinary research projects in order to create solutions to the known/newly defined problems.
10	Joins to congresses, panels, symposiums, workshops, seminars, article discussions and problem solving sessions in different disciplines, and exchanges information with the other professionals to contribute to the solutions.
11	Broadens the borders of scientific information by publishing scientific articles in national and/or international peer-reviewed journals.
12	Creates new ideas and methods to contribute to the technological, social and cultural progress, or to help the development of information society by using the theoretical, practical, independent research, abilities responsibly.
13	Designs and implements social projects with the awareness of creating an information society.
14	Compiles and interprets any type of data (field observation, scientific knowledge etc.) in accordance with the aims.
15	Develops and uses strategies about related topics with the field.
16	Implements and defends institutional and practical information and abilities in accordance with the needs of the country and the world, and changes when necessary.
17	Follows up and uses all the updates about the field (scientific information, legislations etc.), and has the qualification to change them.
18	Adopts lifelong learning as a principle and acknowledges that the information gained through research is the most valuable gain.

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	4	4	4	4	4
P3	4	4	4	4	4



P8	4	4	4	4	4
P14	3	3	3	3	3
P16	3	3	3	3	3
P18	3	3	3	3	3

