



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Natural Macromolecules							
Course Code		KİM556		Couse Level		Second Cycle (Master's Degree)			
ECTS Credit	6	Workload	149 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		Tools for structure analysis of macromolecules are discussed.							
Course Content		This course presents the students a systematic approach to macromolecular structure – function relationship.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Case Study, Individual Study					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	35
Assignment	3	45

Recommended or Required Reading

1	Protein Engineering, 1996, Jeffrey L. Cleland, Charles S. Craik, Wiley-Liss. ISBN 0471103543
2	Self – Organization of Complex Structures 1997, Frank Schweitzer CRC Pres. ISBN 9056990276

Week	Weekly Detailed Course Contents	
1	Theoretical	Chemical and three – dimensional structure of proteins.
2	Theoretical	Protein synthesis and modification.
3	Theoretical	Analysis of protein structure and X-ray crystallography.
4	Theoretical	Chemical and three – dimensional structure of nucleic acids.
5	Theoretical	Analysis of nucleic acid structure.
6	Theoretical	Structure – function relationship of nucleic acids.
7	Theoretical	Synthesis of nucleic acids.
8	Theoretical	Chemical and three – dimensional structure of polysaccharides.
9	Theoretical	Chemical and three – dimensional structure of polysaccharides.
10	Intermediate Exam	Midterm
11	Theoretical	Types of polysaccharides and structure – function relationship.
12	Theoretical	Structure and dynamics of natural membranes.
13	Theoretical	Complex macromolecules.
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Assignment	5	0	5	25
Midterm Examination	1	48	2	50
Final Examination	1	30	2	32
Total Workload (Hours)				149
[Total Workload (Hours) / 25*] = ECTS				6

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	to be able to recognize the chemical structure of proteins
2	to be able to gain knowledge on how to identify biomolecules.
3	to be able to acquire knowledge on how to evaluate structure-function relationship of macromolecules.



4	to be able to recognize the chemical structure of nucleic acids
5	to be able to recognize the chemical structure of carbohydrates

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	5	3	4	4	4
P2			5	4	
P3	4	3			4
P4	3		3	4	4
P7		3	3	4	
P8	4				4

