



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Biotechnology and Biomedicine							
Course Code		KİM559		Course Level		Second Cycle (Master's Degree)			
ECTS Credit	6	Workload	156 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		To teach the definition of biomedicine engineering, biochemistry engineering and genetic engineering, to teach the separation technologies related to purification of the plasma proteins.							
Course Content		Basic knowledge about biotechnology, definition about biomedicine engineering, biochemistry engineering and genetic engineering , application areas, fermenters and their design, introduction to chromatographic techniques.							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion, Individual Study					
Name of Lecturer(s)									

Assessment Methods and Criteria

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

Recommended or Required Reading

1	Lecture notes of lecturer.
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Week	Weekly Detailed Course Contents	
1	Theoretical	Basic knowledge about biotechnology, its history and working areas.
2	Theoretical	Definitions of biomedicine engineering, biochemistry engineering and genetic engineering, and their work item
3	Theoretical	Application areas of biomedicine engineering, biochemistry engineering and genetic engineering in human health.
4	Theoretical	Application areas of biomedicine engineering, biochemistry engineering and genetic engineering in agriculture.
5	Theoretical	Biologic product market, fermentor types and design for the production of biologic products.
6	Theoretical	Biologic product market, fermentor types and design for the production of biologic products.
7	Theoretical	Production and purification of some important biomaterials which are used in diagnosis and treatment.
8	Intermediate Exam	Midterm Exam
9	Theoretical	Polymer applications which are used in recombinant DNA process.
10	Theoretical	Separation techniques for the purification of plasma proteins.
11	Theoretical	Chromatographic methods
12	Theoretical	Affinity chromatography
13	Theoretical	Future expectations
14	Theoretical	Student presentation
15	Theoretical	Student presentation
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	3	42
Assignment	1	30	0	30
Midterm Examination	1	40	2	42



Final Examination	1	40	2	42
Total Workload (Hours)				156
[Total Workload (Hours) / 25*] = ECTS				6
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	to be able to recognize the biotechnology and biomedicine concept.
2	to be able to use the biotechnology and biomedicine applications.
3	to be able to discuss the biomaterials in biotechnology and biomedicine area.
4	to be able to discuss the future expectation of biotechnology and biomedicine.
5	to be able to have knowledge about artificial organs and implants

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	5	5	5	5
P2			5	5	5
P3			5	5	5

