



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Introduction to Bioinformatics							
Course Code		TBY321		Course Level		First Cycle (Bachelor's Degree)			
ECTS Credit	4	Workload	104 (<i>Hours</i>)	Theory	2	Practice	0	Laboratory	2
Objectives of the Course		The aim of the bioinformatics is to learn and use the computer programs used in the biotechnology, bioinformatics is provided.							
Course Content		Bioinformatics concepts, history, use of NCBI, MEGA 6.0 Bioedit, Finch TV, Chromas, Sequencer, and ClustalW programs							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Demonstration, Individual Study					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	70

Recommended or Required Reading

1	Biyologlar için Biyoenformatik Biyologlar için Biyoenformatik, Yazar: Pavel Pevzner , Ron Shamir Çevirmen: Zeki Kaya Yayınevi : Nobel Akademik Yayıncılık
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Week	Weekly Detailed Course Contents	
1	Theoretical	General definitions for bioinformatics
2	Theoretical	The history of bioinformatics
3	Theoretical	Encoding genes of regions
4	Theoretical	Non coding genes regions
5	Theoretical	National Center for Biotechnology Information
6	Theoretical	DNA and protein sequences taking from NCBI, and blast
7	Theoretical	Use of Bioedit
8	Theoretical	Use of MEGA 6.0.
9	Intermediate Exam	Midterm exam
10	Theoretical	Use of Finch TC and chromas
11	Theoretical	Use of sequencer 5.2.4
12	Theoretical	Use of ClustalW
13	Practice	The application is done
14	Practice	The application is done
15	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	4	3	98
Midterm Examination	1	2	1	3
Final Examination	1	2	1	3
Total Workload (Hours)				104
[Total Workload (Hours) / 25*] = ECTS				4

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	To be able to use biologic databases and data banks
2	The history of the bioinformatics learned
3	The use of different learning bioinformatics program



4	To know the basics of gene sequencing, protein synthesis, drug design and discovery
5	To be able to analyze biologic processes and applications using computational techniques
6	To understand how to express biological structures using computational approaches

Programme Outcomes (Agricultural Biotechnology)

1	To be able to develop skills in identifying, modeling and solving problems in agricultural biotechnology
2	To be able to synthesize life and engineering sciences for the effective resource planning of agricultural biotechnology applications
3	To be able to interpret about living organisms structure, metabolic and physiological processes in order to propose biotechnological solutions to the agricultural problems
4	To be able to analyze genomic, metabolomic and proteomic information via bioinformatic tools.
5	To have the ability to analyze collected data and interpret the results.
6	To have the ability of individual working ability and to make independent decisions, to work in inter-disciplinary and interdisciplinary teamwork, to communicate by expressing their ideas orally and in writing, clearly and concisely
7	To have the awareness of professional liabilities and ethics
8	To be able to follow current national and international problems

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

	L1	L2	L3	L4	L5	L6
P1	3	4	3	3	3	4
P2	3	4	3	4	3	4
P3	4	3	4	4	4	4
P4	4	4	4	3	5	3
P5	4	3	4	3	5	4
P6	4	4	4	5	3	5
P7	4	5	5	5	3	5
P8	4	5	5	4	3	5

