

Course Description	
Course Code	YS 424
Course Name	BIOINFORMATIC APPLICATIONS
Prerequisite Courses	
Language of the Course	The English
Course Coordinator	
Instructor(s)	
Course Assistants	
The aim of the course	Knowledge of Biotechnology and Bioinformatics topics
Course Content	Combination of Molecular Biology and Computer Technology

Weekly Course Content	
Week 1	Definition of biotechnology
Week 2	Application fields
Week 3	Interdisciplinary structure
Week 4	classification
Week 5	Biotechnology industry in Turkey, Biyosorbsiyon and Biodegradation
Week 6	Bioreactor techniques
Week 7	Microorganisms and microbial metabolism products
Week 8	Midterm exam.
Week 9	Microorganisms growing for biotechnology
Week 10	Recombinant DNA technology, Human gene project
Week 11	biosensors
Week12	Bioinformatics: The composition of molecular biology and computer technology
Week 13	Bioinformatics application methods
Week 14	Ethics and Biotechnology
Week 15	Final exam.

Course Learning Outcomes	
1	To gain experience about biotechnology
2	To inform students about applications of biotechnology
3	To provide information about bioinformatics applications
4	-
5	-
6	-

Contribution of the Course to Program Qualifications			Contribution Level
01	The student will have the ability to apply analytical approach, mathematics and science knowledge in software and engineering issues.		5
02	The student will have the ability to identify, define, formulate and solve a problem in software and computer systems.		0
03	The student will have gains scientific research skills in software and engineering problems, has the ability to design a system, part or process.		5
04	The student will have the ability to use the design capability, techniques and tools required for engineering applications.		0
05	The student will have the ability to design, implement and interpret experimental work and software projects by analyzing the results.		0
06	The student will have the ability to work between disciplines and teamwork.		5
07	The student will have the ability to work in international environments and adapt to different cultures.		0
08	The student will have verbal and written communication skills in Turkish and English.		2
09	The student will have the awareness of the necessity of lifelong learning and the ability to realize it.		5
10	The student will gain knowledge of legal issues with the awareness of professional and ethical responsibility.		4
11	The student will have managerial skills (leadership, organization, time and risk management, quality awareness, efficiency, etc.).		0
12	The student will have the ability to participate in social activities, to acquire regular sports habits and to use time in the best way.		0
13	The student will have the ability to find unusual ways and produce projects.		5
14	The student will have professional self-confidence, being an entrepreneur and taking initiative.		4
15	It is sensitive about the problems of the age and looks after the national interests.		4

ECTS WORKLOAD			
	Number	Duration (hours)	Number*Duration
Face to face education	14	2	28
Out-of-class study time (pre-study, reinforcement)	14	1	14
Homeworks	4	4	16
Presentation / Seminar preparation	0	0	0
Quizzes	0	0	0
Preparation for midterm exams	1	6	6
midterm exams	1	1	1
Project (Semester assignment)	0	0	0
Lab	0	0	0
field work	0	0	0
Preparation for the final exam	1	10	10
Semester final exam	1	1	1
Research	0	0	0
TOTAL WORKLOAD			76
ECTS			3

Evaluation		
SEMESTER EVALUATION	Number	Contribution Percentage
Midterm	1	20
Quiz	0	0
Homework	4	20
SEMESTER TOTAL		40
Contribution rate of mid-term evaluations to success		40
Contribution rate of the final exam to success		60
GRAND TOTAL		100

RESOURCES	
Textbook	
Helpful Resources	Thieman, W.J, Palladino, M A, Biyoteknolojiye Giriş, Palme Yayıncılık, Ankara, 2013