

**ABDULLAH GUL UNIVERSITY
GRADUATE SCHOOL OF ENGINEERING & SCIENCE
BIOENGINEERING DEPARTMENT
COURSE DESCRIPTION AND SYLLABUS**

Course Name	CODE	SEMESTER	T+L Hour	CREDIT	ECST
Ethics in biotechnology	BENG513	FALL-SPRING	3+0	3	10

Prerequisite Courses	None
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Course Type	Elective
Course Language	English
Course Coordinator	Assist. Prof. Dr. Aysun Cebeci Aydın
Lecturers	Assist. Prof. Dr. Aysun Cebeci Aydın
Course Assistants	None
Course Objectives	To teach the ethical problems and arguments in the biotechnology field
Learning Outcomes	<p>Student will learn about</p> <ul style="list-style-type: none"> • Main fields in biotechnology • Ethical concerns of the biotechnology community • Suggest basic arguments in the ethical problems of biotechnology • Gain experience in defending his ideas in an arguable field
Course Content	Biotechnology and biosafety, ethical problems, ethics regulations, stem cells and cancer research, biological terror

WEEKLY SUBJECTS AND RELATED PRELIMINARY PAGES

Week	Subjects	Preliminary
1	Introduction: biotechnology and bioethics	Main course book and related articles
2	Ethics in biotechnology	Main course book and related articles
3	Regulations and ethics in biotechnology	Main course book and related articles
4	Stem cell research	Main course book and related articles
5	Cancer research	Main course book and related articles
6	Recombinant DNA and GMO risk	Main course book and related articles
7	Biological terror and bioweapons	Main course book and related articles
8	Presentations	Main course book and related articles
9	Debates	Main course book and related articles
10	Midterm	Main course book and related articles
11	Presentations	Main course book and related articles
12	Debates	Main course book and related articles
13	Presentations	Main course book and related articles
14	Debates	Main course book and related articles
15	Debates	Main course book and related articles
16	Final exam	Main course book and related articles

RESOURCES

Course Notes	Lecture notes and slides
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Other Resources Course main book: "Where Science and Ethics Meet: Dilemmas at the Frontiers of Medicine and Biology" Chris Willmott, Salvador Macip (2016) Praeger

MATERIAL SHARING

Documents	Lecture notes and slides
Homework	1 homework / week
Exams	1 MT and 1 Final

RATING SYSTEM

SEMESTER WORKS	NUMBER	CONTRIBUTION
Midterm	1	30
Homework	14	20
Attendance	14	10
TOTAL		60
Success Rate of Semester		60
Success Rate of Final	1	40
TOTAL		100

Course Category

Basic Sciences and Mathematics	%00
Engineering Sciences	%0
Social Sciences	%00

THE RELATIONSHIP BETWEEN THE LEARNING OUTCOMES AND PROGRAM COMPETENCE

	No Program Outcomes	Contribution Level				
		1	2	3	4	5
1	Understanding of Life Sciences, Mathematics and Engineering at the post-graduate level, and being able to implement of this knowledge into bioengineering problems					X
2	Having the ability of developing a new scientific method or a technological product or process, and, designing experiments, implementing, collecting data and evaluating regarding these issues					X
3	Choosing technical equipment used in the applications related to bioengineering, having sufficient knowledge in adopting and using new technological equipment					X
4	Having the ability of reaching the information, using resources, contributing to the literature by transferring the process and results of scientific studies as written or verbally in the national and international environments					X
5	Having the ability of working as an individual or a team, in the teams composed of discipline or different disciplines, gaining awareness of leadership and taking responsibility				X	
6	Having advanced level of foreign language knowledge to manage efficient verbal, written and visual communication in the major field				X	
7	Having the understanding of ethics in science and the responsibility in profession with the awareness of lifelong learning, being beneficial to society and sensitiveness to global issues					X
8	Being aware of the social impacts of the solutions and applications of the challenges regarding Bioengineering					X

*From 1 to 5, it increasingly goes.

ECTS / WORK-LOAD TABLE

Activities	Activities	Duration (Hour)	Total (Work-Load)
Course Duration (Including exam week: 16x total course hour)	16	3	48
Out of Class Exercise Time (Pre-study, reinforcement)	16	7	112
Searching on Internet, library study	16	4	56
Presentation	2	15	30
Debates	2	15	30
Midterms	1	5	5
Final	1	10	10
Total Work-Load			291
Total Work-Load / 30			291/30

Course ECTS Credit			10
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