Jordan University of Science and Technology
Faculty of Pharmacy
Pharmacy Department

PHAR796D Ethics Of Biomedical Technologies - JNQF Level: 6

Second Semester 2023-2024

Course Catalog
2 Credit Hours. The course covers current ethical issues in Biotechnology, including topics in medical biotechnologies (stem cell, gene editing, precision medicine, synthetic biology, enhancement, and vaccines), agricultural biotechnology (genetically modified plants, animals, and food), microbial biotechnology, forensic analysis, aquatic technology, and recombinant DNA technology. The course also covers Biotechnology regulations, safety, and biosecurity.
Teaching Method: On Campus

Text Book	
Title	Ethical Issues in Biotechnology
Author(s)	John D. Morrey
Edition	2nd Edition
Short Name	Textbook1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Textbook2	Ethical Perspective of Biotechnology	Sangeeta Pande	1st Edition	

Instructor	
Name	**Prof. Omar Khabour**
Office Location	M5 L0 Office 5
Office Hours	Sun : 08:15 - 09:30 Mon : 08:15 - 09:30 Tue : 08:15 - 09:15 Wed : 08:15 - 09:15 Thu : 08:15 - 10:00
Email	khabour@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Thu : 10:00 - 13:00 Room: U

Tentative List of Topics Covered		
Weeks	**Topic**	**References**
Week 1	Introduction	
Week 2	The Ethics of Human Cloning	From **Textbook1**
Week 3	The Ethics of Somatic Cell Gene Therapy	From **Textbook1**
Week 4	Genetic Engineering of Farm Animals	From **Textbook2**
Week 5	Ethical Issues in Food Biotechnology	From **Textbook2**

Week 6	Precision medicine	From **Textbook1**
Week 7	mRNA Vaccines	From **Textbook2**
Week 8	Mid-term exam	
Week 9	CRISPR Health Applications	
Week 10	Ethics of Stem cells research	From **Textbook1**
	Artificial Intelligence in Medicine	
Week 12	Ethics of Neurotechnology	From **Textbook1**
Week 13	Mobile Technology for Continuous Health Surveillance	From **Textbook2**
Week 14	Biosafety	From **Textbook2**
Week 15	Final Presentations of Case studies	From **Textbook2**

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	**Course Outcome Weight (Out of 100%)**	**Assessment method**
Have a positive disposition toward continued learning about ethics in biomedical technologies [1PLO1.1, 1PLO3.2, 1PLO2.3] [1L6K1, 1L6S1]	35%	Mid-term, Final Exam
Know regulations, issues, options, and resources for biomedical technologies [1PLO3.1, 1PLO3.5, 1PLO3.6, 1PLO4.1] [1L6S1, 1L6C2, 1L6C3]	35%	Mid-term, Final Exam
Appropriately use ethical principles and ethical guidelines to address ethical challenges in biomedical technologies [1PLO4.2, 1PLO4.3, 1PLO4.4] [1L6C4, 1L6C5]	30%	Mid-term, Final Exam

Relationship to Program Student Outcomes (Out of 100%)															
PLO1.1	PLO2.1	PLO3.2	PLO3.3	PLO2.2	PLO2.3	PLO2.4	PLO3.1	PLO3.4	PLO3.5	PLO3.6	PLO4.1	PLO4.2	PLO4.3	PLO4.4	PLO5.1
11.67		11.67			11.67		8.75		8.75	8.75	8.75	10	10	10	

Relationship to NQF Outcomes (Out of 100%)					
L6K1	L6S1	L6C2	L6C3	L6C4	L6C5
17.5	29.17	11.67	11.67	15	15

Evaluation	
Assessment Tool	**Weight**
Mid-term	50%
Final Exam	50%

Policy	
Attendance	JUST policy requires faculty to assign a grade of ZERO if a student misses 20% of the classes. If you miss class, it is your responsibility to find out about any announcements or assignments you may have missed.
Integrity	Plagiarism and any other form of academic misconduct will not be tolerated and will lead to expulsion from the program

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