

Course Specification

— (Postgraduate Programs)

Course Title: Research Principles and Ethics
Course Code: BIO-6200
Program: Master of Science in Applied Biology (Cell and Molecular Biology)
Department: Biology
College: Science
Institution: Imam Mohammad Ibn Saud Islamic University
Version: 1
Last Revision Date: <i>Pick Revision Date.</i>



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1. Course Identification:

2. Course type

B. ☒ Required ☐ Elective

4. Course General Description:

5. Pre-requirements for this course (if any):

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None

This graduate course aims to provide the students with the basic knowledge of research principles and ethical rules related to research activities. The course objectives are mainly centred on adherence to the relevant ethical rules and research principles while performing research work. The identification of topics such as beneficence and non-maleficence, merit and integrity of research, justice, and the right to withdraw are among the objectives of this graduate course. The various types of conflict of interest and the differences between deceptive and non-deceptive practices in the research activities are also targeted.

2. Teaching Mode: (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	√	100%
2	E-learning	-	-
3	Hybrid √ • Traditional classroom • E-learning	-	-
4	Distance learning	-	-

3. Contact Hours: (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	30
2.	Laboratory/Studio	0
3.	Field	0
4.	Tutorial	0
5.	Others (specify)	
	Total	30

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods:

Code	Course Learning Outcomes	Code of CLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	List the steps essential to recruit research participants to share in a particular research work, and measures taken to maintain the research confidentiality	K1	Two credits weekly involving lectures and tutorials	-Quizzes -Written exams -Assignments -Lecture discussions

Code	Course Learning Outcomes	Code of CLOs aligned with the program	Teaching Strategies	Assessment Methods
1.2	Describe the forms of conflict of interest that may compromise the flow of the research work	K2	Two credits weekly involving lectures and tutorials	-Quizzes -Written exams -Assignments -Lecture discussions
1.3	Explain the significance of obtaining the approval of an "Institutional Review Board"(IBR) to conduct a research work	K3	Two credits weekly involving lectures and tutorials	-Quizzes -Written exams -Assignments -Lecture discussions
1.4	Outline the measures taken to care for and use of experimental	K4	Two credits weekly involving lectures and tutorials	-Quizzes -Written exams -Assignments -Lecture discussions
2.0	Skills			
2.1	Relate a certain research principle and an ethical rule to a particular research study	S1	-Presentations -Group discussions	-Direct observation -Lab Reports
2.2	Design and conduct experimental research work in a way that maximizes benefits and minimizes the potential risks of the research study	S2	--Presentations -Group discussions	-Direct observation -Lab Reports
3.0	Values, autonomy, and responsibility			
3.1	Perform research work independently and effectively cooperate in a team with the	V1	--Presentations -Group discussions	-Direct observation -Lab Reports

Code	Course Learning Outcomes	Code of CLOs aligned with the program	Teaching Strategies	Assessment Methods
	consideration of confidentiality and data protection			
3.2	Adhere to the relevant ethics while performing research work in the various disciplines of biology	V2	-Presentations -Group discussions	-Direct observation -Lab Reports

C. Course Content: عبدالمطعم بن بطيحي

No	List of Topics	Contact Hours
1.	Approval of Ethics Board: Approval of the "Institutional Review Board" (IBR) to conduct the research in compliance with national and international rules and regulations.	2
2.	Research Participants: Recruit participants: Ethical rules should be followed to recruit participants in a research study Respect to persons: Autonomy and protection of those with diminished autonomy Justice: Equal treatment is the core principle of justice concerning research Avoiding deceptive practices: Everyone in a particular research setting knows the design and objectives of the research Providing the right to withdraw: Research participants should always have the right to withdraw from the research process Confidentiality and data protection: Respect the confidentiality nature of information and protect anonym Conflict of interest: Independence of research and declaration of any conflict of interest	4
3.	Animal Research (Use and Care of Lab Animals): Humanity in the housing of experimental animals, and their anaesthesia and euthanasia.	2
4.	Publishing Ethics (Author duties and rights): Duties: Originality, concurrent publication, confidentiality, authorship, declarations, and image integrity Rights: using data freely, receiving attribution and credit, and sharing published work	2
5.	Research Theory and Basics:	4

	Research theory: Assumptions of researchers about findings in reality, how to detect changes, and how to extract conclusions Research basics: Research design(descriptive, correlation, comparative, experimental, simulation, evaluation); Research methods (conduction of research, collecting data, organizing data, analyzing data) The integrity of research: Proper design and reviewing of the research work to ensure the standards of integrity, quality, and transparency Beneficence and non-maleficence: maximizing the benefits of research and minimizing the potential risks to researchers	
6.	Structuring the Research Project: Proposal and research plan: Testing a particular hypothesis, Preparation and approving a proposal, and planning of research work Searching and reviewing the literature: Finding information and extended literature review Collecting and analyzing data: Quantitative and qualitative data analysis, reasoning, and conclusions	6
7.	Writing up the Research: Organizing notes on the literature, showing results, and discussing findings	2
8.	Researchers' Rights: Intellectual Property Intellectual Property Rights Types of Intellectual Property Rights (IPR)	2
Total		30

D. Students Assessment Activities:

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Midterm exam-1	5 th week	20%
2.	Midterm exam-2	10 th week	20%
3.	Assignments, presentations, attendance, data search, participation	Throughout the course duration	20%
4.	Final exam	16 th week	40%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.)

E. Learning Resources and Facilities:

1. References and Learning Resources:

Essential References	-Congiunti L, Francesco FL, Russo A, Serio M. Ethics in Research. Principles and Practical Considerations. Springer Cham. ISBN: 978-3-031-24059-1 ISSN: 2366-7516
Supportive References	https://www.city.ac.uk/research/support/integrity-and-ethics/ethics/principles https://uraf.harvard.edu/researchers-principles-policies https://research.virginia.edu/compliance/research-regulations https://research.illinoisstate.edu/ethics/human-subjects/policy/ https://www.nih.gov/health-information/nih-clinical-research-trials-you/guiding-principles-ethical-research https://www.apa.org/monitor/jan03/principles https://www.mcgill.ca/research/about/ran/research-policies-and-regulations https://www.dpi.nsw.gov.au/dpi/animals/animal-ethics-infolink/legislation-and-the-australian-code/animal-research-regulation
Electronic Materials	
Other Learning Materials	

2. Educational and Research Facilities and Equipment Required:

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Classroom, laboratories
Technology equipment (Projector, smart board, software)	Projector, smart board
Other equipment (Depending on the nature of the speciality)	

F. Assessment of Course Quality:

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Student	Indirect
Effectiveness of students' assessment	Faculty	Direct
Quality of learning resources	Faculty	Direct
The extent to which CLOs have been achieved	Faculty	Direct
Other		

Assessor (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

G. Specification Approval Data:

-	BIOLOGY DEPARTMENT COUNCIL
REFERENCE NO.	23
DATE	23/8/1445