Course Specification
(Bachelor)

Course Title:	**Graduation Project (Theory)**
Course Code:	**BIOL 471**
Program:	**Bachelors of Science (B.Sc.,) Biology**
Department:	**Biology Department**
College:	**College of Science, Al Zulfi**
Institution:	**Majmaah University**
Version: :	**# 4th**
Last Revision Date:	**Ref# 4; 29/12/2023**

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours: 2 (2+0)					
Equivalent to ECTS credit points: 3					
2. Course type					
A.	☐University	☐College	☒ Department	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: (7th level / 4 th year)					
4. Course General Description:					
The course deals with types of research work (Basic, applied), Research ideas in biological sciences, research problem, stages of research process and provide an introduction to the basis and principles of research methodology. Various research designs will be introduced that include experimental and non-experimental as well as qualitative and quantitative designs.					
5. Pre-requirements for this course (if any):					
BIOL215 – BIOL223 – BIOL352 -BIOL361					
6. Co-requisites for this course (if any):					
N/A					
7. Course Main Objective(s):					
✓ **This course focus on Know the types of research work, Stages of Research, , Collect the data for research, and develop basic scientific writing skills.**					
✓ **This course aims to highlight the importance and necessity of research in the biological sciences.**					
✓ **This course Foucus on prepare students to plan and conduct research projects during their studies in the Faculty of Science and in their future careers.**					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	**30**	**75%**
2	E-learning	**10**	**25%**
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)**	0
Total		30

No	Activity	Workload (in hours
1.	**Contact Hours**	**30**
2.	**Self – study hours or Academic learning hours (Assignments, Quizzes, reports, Discussions, Library, research …….)**	**30**
	Total Workload	**60 hours**
	Equivalent to ECTS credit points	**3**

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

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1				
1.2				
1.3	**Recall the principles and procedures in research and scientific disciplines.**	**K3**	**Lecture** **Individual and group discussion.**	▪ **Assignments** ▪ **Quizzes** **Midterm**
2.0	**Skills**			
2.1	**Explain the research problem**	**S1**	**Lecture** **Individual and group discussion.**	▪ **Assignments** ▪ **Quizzes** ▪ **Midterm**
2.2				
…				
3.0	**Values, autonomy, and responsibility**			

Code	Course Learning Outcomes	Code of PLOs aligned with the program	Teaching Strategies	Assessment Methods
3.1	Prepare effectively in groups as well as individually for biological research and presentation.	V1	Individual and group discussion.	-Written participations. -Oral question -Presentation -Report verification
3.2				
...				

C. Course Content

No	List of Topics	Contact Hours
1.	Unit 1 - Introduction, Types of Research work (Discrete, basic, applied), Research ideas in biological sciences	4
2.	Unit 2 – Types of Research & Importance	4
3.	Unit 3 – Stages of Research process, Research Problem	4
4.	Unit 4 – Sampling methods, Research hypothesis	4
5.	Unit 5 – Data analysis, Graphical presentation of research	4
6.	Unit 6 – Research ethics, Plagiarism, Misconduct behaviors in research	4
7.	Unit 7 –Reporting a research, Scientific writing: Types of research reports, Parts of research article, Parts of thesis	6
Total		30

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quiz's, and Oral test	Every 2 weeks as applicable	10 %
2.	Mid-term Exam	5^{th} – 6^{th} weeks	20 %
3.	Bb electronic exam	12^{th} – 13^{th} weeks	10 %
4.	Assignments and home works	Every 2 weeks as applicable	20%
5.	Presentation	13^{th} – 14^{th} weeks	10 %
6.	Report	14^{th} – 15^{th} weeks	30 %

*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	- Research Design: Qualitative, Quantitative, and Mixed Methods Approaches by John W. Creswell and J. David Creswell Research Methodology: A Step-by-Step Guide for Beginners by Dr. Ranjit Kumar
Supportive References	The Craft of Research by Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams
Electronic Materials	- National Science Digital Library (NSDL) Pathway for biological sciences education Kimbells biology pages http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/
Other Learning Materials	Electronic materials of Lecture notes and PowerPoints available in 'Black board' database

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	**Existing facilities are satisfactory** (Classrooms and other facilities are available).
Technology equipment (projector, smart board, software)	**Existing facilities are satisfactory** (smart board and e-podium are available**)**
Other equipment (depending on the nature of the specialty)	**Nil**

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	**Self-evaluation** **Peer Reviewer**	**Indirect** **Direct**
Effectiveness of Students assessment	**Self-evaluation**	**Direct**
Quality of learning resources	**Program Leaders**	**Direct**
The extent to which CLOs have been achieved	**Departmental course committee**	**Direct**
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewers, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	**Biology Department Council**
REFERENCE NO.	**# 7**
DATE	**04/ 04/ 1446H __ 07/10/2024**