Course Specification
(Bachelor)

Course Title:	Graduation Project
Course Code:	EVS 1499
Program:	Bachelor of Science in Environmental Science
Department:	Biology
College:	Science
Institution:	Imam Mohammed Ibn Saud Islamic University
Version:	1
Last Revision Date:	-

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A. General information about the course:

1. Course Identification:

1. Credit hours: (4)				
2. Course type				
A.	☐University	☐College	☒ Department	☐ Track
B.	☒ Required		☐Elective	
3. Level/year at which this course is offered: (Level 8/ Fourth year)				
4. Course General Description:				

This graduate course provides students with the opportunity to conduct independent research projects with the guidance of academic supervisors. A research project for students is an extended essay that presents a research question for analysis and evaluation. Conduction of the research work is the subsequent step to project planning and submission of research proposals. Assigned research projects enable students to explore areas of interest across various biology disciplines, under the supervision of academic staff members. Through the independent conduction of planned projects, students are encouraged to develop and employ a range of research skills such as a collection of data from diverse sources and systematic reviewing of the relevant literature. Proper keeping of records, interpretation and analysis of research results, safe practices under laboratory and field conditions, and presentation of scientific issues are among the targeted skills. Given these skills, the students have the chance to develop a deeper understanding of research topics that are targeted in their projects. Through this course, the students are equipped with the experience of research and project management as well as the professional skills that are crucial to performing future research work. Successful completion of this course represents the cornerstone to qualify the enrolled students for graduation.

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

None

6. Co-requisites for this course (if any)**:**

None

7. Course Main Objective(s):

The major course objectives are centred on research planning, research conducting, and research reporting. According to course aims, the students are engaged in practical independent research focusing on their specializations to achieve the planned proposal objectives. The research project is planned and formulated in a proposal in terms of research purpose, background, methods, analysis of research results, and documentation. One of the major course objectives is to allow the students to independently manage research projects within a scheduled work-frame. The students should comply with the relevant ethical rules, and the safety measures appropriate to their research work. The course also aims to provide the students with practical skills concerning the selection and employment of the appropriate research methods.

2. Teaching Mode: (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	-	0
2	E-learning	-	0
3	Hybrid • Traditional classroom • E-learning	-	0
4	Distance learning	-	0

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

No	Activity	Contact Hours
1.	**Lectures**	0
2.	**Laboratory/Studio**	12
3.	**Field**	48
4.	**Tutorial**	0
5.	**Others (specify)**	
	Total	60

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

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Outline the sequence of preliminary steps, including topic approval, project planning and proposal submission, that precede the launch of a research project	K1	-	-Presentations -Reports
1.2	Explain how to balance the sections of description and analysis in scholarly writing and how to implement them in the final research report	K2	-	-Presentations -Reports
1.3	Describe how to prepare a checklist for the research project by listing the research resources and identifying the data sources, along with other requirements	K3, K4	-	-Presentations -Reports

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
2.0	**Skills**			
2.1	Relate the intended original research to the proposal objectives and current trends to execute experimental or field research work.	S1	-	-Presentations -Reports
2.2	Employ the theoretical knowledge and practical experience to apply the research methodologies for generating reliable data	S2	-	-Presentations -Reports
2.3	Apply critical thinking and professional skills to test research hypotheses and address the research questions	S3	-	-Presentations -Reports
2.4	Formulate the final research report, by including the applied methods, results, and analysis, in a way that reflects in-depth knowledge and practical skills.	S4	-	-Presentations -Reports

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
3.0	**Values, autonomy, and responsibility**			
3.1	Demonstrate a strong sense of independence and, an attitude of accountability and responsibility while carrying out the research project.	V1	-	-Presentations -Reports
3.2	Participate in discussions relevant to the research project, communicate scientific issues, and present research results orally and in written formats to varied audiences	V2,V3	-	-Presentations -Reports
3.3	Adhere to the relevant ethical rules and demonstrate the ability to comply with safety procedures appropriate to the research project	V4		-Presentations -Reports

C. Course Content:

No	List of Topics	Contact Hours
1.	**Preliminary steps of the research project:** -The nature of the research area -Finding a research topic -Feasibility of research topic -Validity of research area -Formulating a research question, statement, or hypothesis	6
2.	**Planning and designing a research project:** -Methods for testing hypotheses -Experimental models and field studies -Experimental design -Research methods and techniques	6
4.	**Finding and evaluating sources:** -Locating, collecting and evaluating information for a specific research purpose - Acquisition of technical information - Methods of collecting information -Credible sources to make up a literature review -Up-to-date information -Relevance of sources -Validity of sources	6
5.	**Conducting research:** **-**Primary research (lab experiments and field studies) -Execution of research plan to achieve research goals	30
6.	**Formulating a research report:** **-Research report format** **-Components of a research report:** **Introduction:** Presenting the hypothesis and purpose of the project **Literature review:** Description of the publications, evaluating the existing research, and validating the research aims. **Methodology:**	8

	Application of Research methods to test hypothesis Quantitative (description and observation) Qualitative (Numerical) **Results and findings** **Analyzing and interpreting research data:** Statistical analysis of research data Interpretation of research results **Discussion:** Relating results to the research hypothesis, Explaining results Validating results by published data Significance of the research **Conclusion:** Summarizing the research report **References:** Listing of correctly cited references	
7.	**Presentation and evaluation of the research report:** -Presentation of research report (oral and written formats) -Evaluation of research report (supervisors and examiners)	4
Total		**60**

D. Students Assessment Activities:

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	**Evaluations**	Throughout the course duration	60%
2.	**Final Reports**	By the end of course duration	40%
3.	-	-	-
...	-	-	-

*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	Thomas G. (2022). How to Do Your Research Project: A Guide for Students. 3rd Ed. SAGE Publications Ltd. ISBN 10: 1529757711 Berry R. (2004). The Research Project. How to Write It, 5th Ed. ISBN 9780415334457 Ewart J, Ames K. (2020). Managing Your Academic Research Project. Springer Singapore. ISBN: 978-981-15-9194-5
Supportive References	https://www.gla.ac.uk/coursecatalogue/course/?code=BIOL513P https://ocasys.rug.nl/current/catalog/course/WBCH901-15
Electronic Materials	
Other Learning Materials	

2. Educational and Research Facilities and Equipment Required:

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

F. Assessment of Course Quality:

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	-	-
Effectiveness of students' assessment	-	-
Quality of learning resources	Supervisor (s)	Direct
The extent to which CLOs have been achieved	Department and Faculty	Direct
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval Data:

COUNCIL /COMMITTEE	
REFERENCE NO.	
DATE	