Course Specification

(Postgraduate Programs)

Course Title: Filed Survey Design
Course Code: BIO-6322
Program: Master of Science in Applied Biology (Biodiversity, Wildlife Conservation & Management)
Department: Biology
College: Science
Institution: Imam Mohammad Ibn Saud Islamic University
Version: 1
Last Revision Date: *Pick Revision Date.*

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A. General information about the course:

1. Course Identification:

1. Credit hours: 3(Lecture 2+ lab 2)

2. Course type

A.	☐University	☐College	☐Department	☒ Track
B.	☒ Required		☐ Elective	

3. Level/year at which this course is offered: (Level 3 / second year)

4. Course General Description:

Ecological field Survey Techniques aim to provide the knowledge, understanding, and skills needed to conduct effective ecological field surveys for a range of key taxa and to analyze field survey data with confidence. It is made up of a number of modules which you can also take separately and use the academic credit elsewhere, or simply for professional training in field survey techniques.

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

Biodiversity Studies and Applied Ecology

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

7. Course Main Objective(s):

The course aims to equip students with the techniques to survey, measure, quantify, assess and monitor biodiversity and ecosystems in the field. It is essential for conservation practitioners and volunteers worldwide to make evidence-based decisions about a site or species. Equipping environmental conservation practitioners with the capacity to collect and analyze field survey data in order to understand, interpret and, therefore, make informed decisions in environmental conservation is critical to the future of ecosystems and ecosystem services in all biomes.

In particular, the course aims to create environmental conservation practices for practitioners and volunteers worldwide, that will:

- Focus on the use of survey techniques for measuring, quantifying and monitoring biodiversity; Develop a critical understanding of how to analyse field survey data to answer particular research or management questions;
- Enable conservationists to make informed decisions on, and assess the status of, a species or habitat;
- Enable conservationists to evaluate which field techniques to use for measuring and monitoring the impacts of environmental change on biodiversity;

- Build capacity and communities of practice among environmental conservationists worldwide.

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**	30
3.	**Field**	-
4.	**Tutorial**	-
5.	**Others (specify) ……**	
	Total	60

B. Course Learning Outcomes, Teaching Strategies, Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understanding**			
1.1	Explain and apply sustainable management concepts, particularly criteria and		Two credits weekly lectures	-Quizzes -Presentations

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
	indicators, the adaptive management cycle and the precautionary principle	1.1		-Assignments -written exams
1.2	Demonstrate a conceptual understanding of measurement and modeling approaches in ecological studies .	1.2	Two credits weekly lectures	Quizzes -Presentations -Assignments -written exams
1.3	Demonstrate an ability to apply concepts and methods of quantitative analysis, in the context of environmental data	1.3	Two credits weekly lectures	Quizzes -Presentations -Assignments -written exams
2.0	Skills			
2.1	Assess strategies to manage arid land and other ecosystems in response to social, economic and political contexts of management (including biodiversity and carbon sequestration	2.1	-Two credits weekly lectures -Tutorials	-Presentations -Assignments -written exams
2.2	To build capacity to effectively communicate quantitative outputs and ecosystem management strategies to a scientific/management community.	2.2	-Two credits weekly lectures -Tutorials	-Presentations -Assignments -written exams
2.3				-
3.0	Values, autonomy, and responsibility			
3.1	Planed and prepare scientific paper and report about Filed Survey Design	3.1	Group discussions	-Presentations -Reports
3.2	Collected data and make good presentation and reports		Group discussions	-Presentations -Reports

C. Course Content:

No	List of Topics	Contact Hours
1.	Plant biodiversity and habitat assessment methods: essential knowledge and skills to conduct effective vegetation surveys.	3
2.	Data Analysis: Statistics for Ecologists and Field Biologists: a thorough introduction to the key statistical principles and methods used by ecologists and field biologists	3
3.	Mammal and reptile survey methods: designed to equip students with the skills, techniques, and know-how necessary to undertake surveys of mammal and reptile populations or individuals with confidence	3
4.	Bird biodiversity and population monitoring methods: detailed training in passive and non-passive bird surveying techniques	3
5.	Fish and amphibian survey methods: in-depth training in fish and amphibian surveying and sampling from initial considerations through to methods and techniques, sampling strategies, and reporting.	3
6.	Invertebrate biodiversity and population monitoring method: expert-led training in invertebrate surveying techniques from planning and preparations through to sampling strategies, surveying methods, and reporting.	3
7.	Report and presentation	2
Total		30

D. Students Assessment Activities:

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	**Midterm exam-1**	5th week	15%
2.	**Midterm exam-2**	10th week	15%
3.	**Assignments, presentations, attendance, data search, participation**	Throughout the course duration	10%
	Final lab exam	15th week	20%
4.	**Final exam**	16th 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	British Standards Institution (2013). BS42020 Biodiversity – A code of practice for planning and development. http:// eshop.bsi-global.com/ProductDetails.aspx?p=30154979&cat=Environment
Supportive References	Chartered Institute of Ecology and Environmental Management (2012). Guidelines for Preliminary Ecological Assessment. Technical Guidance Series. http://www.cieem.net/guidance-on-preliminary-ecological-appraisal-gpe
Electronic Materials	Chartered Institute of Ecology and Environmental Management (2016). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal (version January 2016). Technical Guidance Series. https://www. cieem.net/ecia-guidelines-terrestrial
Other Learning Materials	**https://www.footprint-ecology.co.uk/services/ecological-survey-and-analysis**

2. Educational and Research Facilities and Equipment Required:

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	**Classroom**
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	Students	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**