Course Specification

(Postgraduate)

Course Title:	**Classification of Biodiversity**
Course Code:	**BIOD505**
Program:	**Master's in Biodiversity**
Department:	**Department of Biology**
College:	**Faculty of Science**
Institution:	**University of Tabuk**
Version:	**2**
Last Revision Date:	**18/11/1444 H**

Table of Contents

A. General information about the course:

1. Course Identificationn:

1. Credit hours: 3 Credit Hours (2 Theoretical + 1 Practical)

2. Course type

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

3. Level/year at which this course is offered: (Level 2/Second Semester)

4. Course General Description:

This course describes the classification of biodiversity, the origin, and development of biological diversity from gene to species, native to invasive species, systematics, and classification of various organisms. The course will cover the classification of microorganisms, plant diversity, fungi, and animals (vertebrates and invertebrates). Besides, there is a specialization on parasitic life forms. It introduces a variety of species expressed at the genetic level. Also, it includes the principles of taxonomy.

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

Principles of Biodiversity (BIOD501).

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

None.

7. Course Main Objective(s):

- Study the principles of taxonomy for classifying living organisms.
- Discuss the universal binomial systems for the classification and naming of species.
- Determine the role of Microbiological, Botanical, and Zoological congresses in the naming of plants, microbes, and animals.
- Construction and use of the dichotomous keys to identifying specimens.
- Identify & classify the unknown species, from domain to species level.

2. Teaching Mode: (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	60	100%
2	E-learning		
3	Hybrid • Traditional classroom • E-learning		

No	Mode of Instruction	Contact Hours	Percentage
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 (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	Explain the principles of taxonomy, the binomial system of naming species, and the hierarchical organization of taxa, from highest to lowest.	K1	- Lectures. - Seminars. - Class discussions. - Problem-solving. Classes. - Self-learning.	- Written exams (Midterm and Final exams). - Quizzes. - Class discussions.
1.2				
2.0	**Skills**			
2.1	Apply theoretical principles of taxonomy to distinguish between phyla based on external recognition features.	S1	- Lectures. - Practical sessions. - Seminars. - Class discussions. - Problem-solving. Classes. - Self-learning. - Indivdual and group presentations. - Assignments.	- Written exams (Midterm and Final exams). - Quizzes. - Laboratory reports. - Class discussions. - Indivdual and group presentations. - Assignments.

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
2.2	Differentiate between different phyla of living organisms using simple external recognition features.	S2	- Lectures. - Practical sessions. - Seminars. - Class discussions. - Problem-solving. Classes. - Self-learning. - Indivdual and group presentations. - Assignments.	- Written exams (Midterm and Final exams). - Quizzes. - Laboratory reports. - Class discussions. - Indivdual and group presentations. - Assignments.
2.3	Construct a dichotomous key for the classification of unidentified species.	S4	- Lectures. - Practical sessions. - Seminars. - Class discussions. - Problem-solving. Classes. - Self-learning. - Indivdual and group presentations. - Assignments.	- Written exams (Midterm and Final exams). - Quizzes. - Laboratory reports. - Class discussions. - Indivdual and group presentations. - Assignments.
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3.0	**Values, autonomy, and responsibility**			
3.1	Show responsibility and accuracy in the classification of microorganisms, plants, and animals from domain to species.	V1	- Class discussions. - Presentations. - Practical sessions. - Indivdual and group presentations. - Assignments.	- Class discussions. - Presentations. - Laboratory reports. - Indivdual and group presentations. - Assignments.
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C. Course Content:

No	List of Topics	Contact Hours
1.	Introduction and Significance of Taxonomy.	2
2.	History of Biodiversity Classification - Gene Flow Between Species.	2
3.	Origin of Species & Specie Biodiversity.	2
4.	Binomial Nomenclatures & Construction of Dichotomous Key.	2
5.	The Hierarchical Classification-Taxonomists classification of species.	2
6.	Natural Classification System & Binomial Nomenclature.	2
7.	Bacterial and Archaeal Prokaryotic Diversity & Their Classification.	2
8.	Eukaryotic–Diversity & Their Classification Systems.	2
9.	Fungi, Protists, and Algal Diversity-Classification System & Identification of Unknown Species.	2
10.	Classification System & Identification of Unknown Species.	2
11.	Plantae Classification.	2
12.	Classification & Identification of Invertebrate Animal Species.	2
13.	Classification & Identification of Vertebrate Animal Species.	2
14.	Virus & Parasitic Life Forms Classification & Identification Methods.	2
15.	Functional diversity, Ecological diversity & Stability.	2
Total		**30**

D. Students Assessment Activities:

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quizzes, Class discussions, Assignments	Distributed over 14 weeks	10
2.	Individual or group presentation	Distributed over 14 weeks	10
3.	Laboratory Reports	Distributed over 14 weeks	10
4.	Midterm Exam	9	20
5.	Practical Exam	16	10
6.	Final Exam	18	40
Total			**100**

*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	- Grandcolas, P. and Maurei, M-C. (2018). Biodiversity and Evolution. ISTE Press – Elsevier. ISBN: 9781785482779. - Frankham, R., Ballou, J. D., Briscoe, D. A. (2010). Introduction to Conservation Genetics. Second Edition. Cambridge University Press.
Supportive References	- *Journal of Biodiversity.* - *Journal of Evolution.*
Electronic Materials	- Saudi Digital Library. - UNSEDOC Digital Library. - www.sciencedirect.com.
Other Learning Materials	- None.

2. Educational and Research Facilities and Equipment Required:

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	- A sufficient number of classrooms and well-equipped laboratories are available to accommodate up to 25 students. - Library.
Technology equipment (Projector, smart board, software)	- Data show projectors and a wireless internet connection are available for students and faculties. - Smart blackboard. - Computer Portable PowerPoint presentations.
Other equipment (Depending on the nature of the specialty)	- None.

F. Assessment of Course Quality:

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	- Students.	- Direct & Indirect.
Effectiveness of student's assessment	- Course instructors & Course coordinator (Teachers).	- Direct.
Quality of learning resources	- Students	- Indirect.
The extent to which CLOs have been achieved	- Course instructors. - Course coordinator. - Quality Committee.	- Direct & Indirect.
Other	-	-

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

Assessment *Methods* (Direct, Indirect)

G. Specification Approval Data:

COUNCIL /COMMITTEE	**Department of Biology Council**
REFERENCE NO.	**Department Council NO (26)**
DATE	**26/11/1444 H**