Course Specification
(Bachelor)

Course Title:	*Taxonomy of Flowering Plants*
Course Code:	*BIO1404*
Program:	*Bachelor of Science in Biology*
Department:	*Department of Biology*
College:	*Faculty of Science*
Institution:	*University of Tabuk*
Version:	***Course Specification Version Number***
Last Revision Date:	*September 2023*

Table of Contents

A. General information about the course:

1. Course Identification

1. Credit hours:					
3 Credit (2 theoretical + 1 practical) hours.					
2. Course type					
A.	☐University	☐ College	☒ Department	☐Track	☐Others
B.	☐ Required		☒ Elective		
3. Level/year at which this course is offered: (7th Level / 4th year)					
4. Course general Description:					
An introduction to History of classification, Angiosperm Characteristic features of Angiosperms (flowering plants), Taxonomic studies for the Dicot and monocot family, cytology and its relationship to plant taxonomy, and the basics of chemical taxonomy.					
5. Pre-requirements for this course (if any)**:**					
General Botany 2 (BIO1301).					
6. Co-requirements for this course (if any)**:**					
None					
7. Course Main Objective(s):					
By the end of this course the student will be able to: - Provide the floral characteristics and the basis for their classification. - Introduce the principles of defining and naming the different taxonomic units. - Develop the ability to learn and understand Important features of the current taxonomic systems. - Give the ability to learn and understand Molecular classification, chemical classification, Numerical Classification. - Evaluate taxonomic significance. - Basics of plant diversity and conservation.					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	2	50%
2	E-learning		
3	Hybrid • Traditional classroom		

No	Mode of Instruction	Contact Hours	Percentage
	• E-learning		
4	Distance learning		
5	**Others (specify)**	2	50%

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 (Lab work)**	
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	Describe the characteristic features of Angiosperms (flowering plants).	K1	-Lectures. -Class discussion. -Group discussion. -Case studies.	-Quizzes -Midterm examination. -Final examination. -Class discussion and participation. -Homework (Problem-solving).
1.2	Identify the keys of dicot and monocot families.	K1	-Lectures. -Class discussion. -Group discussion. -Homework assignments. -Case studies.	-Quizzes -Midterm examination. -Final examination.

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
				-Class discussion and participation. -Homework assignments.
1.3	Explain the basic and advanced aspects of angiosperm Systematics.	K2	-Lectures. -Class discussion. -Group discussion. -Homework assignments. -Case studies.	-Quizzes -Midterm examination. -Final examination. -Class discussion and participation. -Homework assignments.
2.0	**Skills**			
2.1	Apply Plant identification based on morphological feature.	S1	-Lab work. -Lectures. -Class discussion. -Group discussion. -Brainstorming. - Filed trip.	-Quizzes -reports -Final examination. -Class discussion and participation. -Homework (Problem-solving).
2.2	Evolute the relationship among various taxonomic groups.	S2,S6	-Lab work. -Lectures. -Short essay -Class discussion. -Group discussion. -Brainstorming. -Filed trip.	-Quizzes -reports -Final examination. -Class discussion and participation. -Homework (Problem-solving).
3.0	**Values, autonomy, and responsibility**			

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
3.1	Work independently and as part of a team.	V1	-Lectures. -Short essay -Class discussion. -Group discussion.	-Class discussion and participation. -Homework (Problem-solving).
3.2	Illustrate the use of scientific research in the field of Botany.	V2	- Projects. -Group working.	- Homework assignments. - Problem class discussions.

C. Course Content

No	List of Topics	Contact Hours
1.	An introduction to History of plant classification.	2
2.	Principles of Taxonomy and its importance.	2
3.	Classification and nomenclature. Types of classification - Artificial, Natural and Phylogenetic.	2
4.	Tools and techniques in collection and Preservation of specimens.	2
5.	Characteristic features of Angiosperms (flowering plants).	2
6.	Systems for taxonomy. Tools in taxonomy (Flower structure).	2
7.	Tools in taxonomy (Fruits) . Tools in taxonomy (inflorescence).	2
8.	Tools in taxonomy (pollen grains, seeds and grains).	2
9.	Families of Dialypetalae (Rosaceae-Leguminosae- Cruciferae).	2
10.	Families of Dialypetalae (Malvaceae - Umbelliferae).	2
11.	Families of Monochlamydae (Chenopodiaceae – Nyctaginaceae - Caryophyllaceae).	2
12.	Families of Sympetalae (Convolvulaceae-Solanaceae-Labiatae).	2
13.	Families of Sympetalae (Scrophulariaceae-Cucurbitaceae-Compositae).	2
14.	Families of Monocotyledonae (Poaceae-Cyperaceae - Palmae).	2
15.	Families of Monocotyledonae (Liliaceae-Juncaceae).	2
Total		30

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Class Participation	During whole teaching period	5
2.	Homework (Problem-solving)	3 to 13	5
3.	Short Exams (Quizzes)	During whole teaching period	5
4.	Midterm Theoretical Examination	8-9	20
4.	Reports (For Practical)	During whole teaching period	10
5.	Final Practical Examination	15	15
6.	Final Theoretical Examination	17	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	- Verma B.K. (2010). Introduction to Taxonomy of Angiosperms, PHI Publications. - Sambamurty A.V.S.S. (2013). Taxonomy of Angiosperms, I.K. International Pvt Ltd. - BARUAH A. (2018). Plant Taxonomy ,EBH Publishers (India).
Supportive References	- Collenette, Sheila (1985): Flowers of Saudi Arabia. Scorpion publishing Ltd. London.
Electronic Materials	- https://libguides.bodleian.ox.ac.uk/plant_taxonomy - https://www.nhbs.com/plant-systematics-simpson-academic-press-book. - Website of Saudi digital Library.
Other Learning Materials	Digital programs and professional software

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	Well-equipped classrooms and laboratories that accommodate a sufficient number of students
Technology equipment (projector, smart board, software)	Multimedia projectors and smart boards.
Other equipment (depending on the nature of the specialty)	NA

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	- Students. - Faculty members.	Indirect & direct: - Questionnaires. - Meetings.
Effectiveness of Students assessment	- Quality and development committee. - Department chair.	- Course report. - Program annual report.
Quality of learning resources	- Plan and program committee. - Students. - Staff members.	Indirect & direct: - Questionnaires. - Meetings. - Reports.
The extent to which CLOs have been achieved	- Quality and development committee. - Peer Reviewer. - Program leaders.	Indirect & direct: - Questionnaires. - Meetings. - Reports.
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	PROGRAMS AND STUDY PLANS COMMITTEE
REFERENCE NO.	
DATE	SEPTEMBER 2023