هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

2023
TP-153

Course Specification
(Bachelor)

Course Title:	*General Botany 2*
Course Code:	*BIO1301*
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*

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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: (5th Level / 3rd year)					
4. Course general Description:					
This course provides an introduction to botany, a broad overview of the morphology and anatomy of plants. It explains structure, function, and modification of different plant organs such as roots, stems, leaves, flowers, inflorescence, and fruits. Outline the different types of seed (monocot & dicot) and stages of seed germination.					
5. Pre-requirements for this course (if any)**:**					
General Botany 1 (BIO1205).					
6. Co-requirements for this course (if any)**:**					
None					
7. Course Main Objective(s):					
By the end of this course, the students should be able to: - Providing students with an introduction to the plant morphology, different plant parts modification purpose and various uses of modification, like root, stem, leaf etc. - Describing the ultrastructure of different plant tissue and different types of plant cells. - Recognizing the different types of plant roots, stems, leaves, flowers, fruits, and seeds. - Describing the different types of plant tissue and anatomy of root, stem, and leaf. - Identifying different organs of plants and recognizing their functions, modifications, and ecological adaptations in the natural environment. - Using a compound microscope to observe the prepared slides of plant tissues.					

2. Teaching mode (mark all that apply)

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

No	Mode of Instruction	Contact Hours	Percentage
3	Hybrid • Traditional classroom • E-learning		
4	Distance learning		
5	**Others (Lab work)**	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 (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	Describe the structure, morphology, function, and modification of plant organs (such as roots, stems, leaves, flowers, and fruits).	K1	-Lectures. -Class discussion. -Group discussion. -Case studies.	-Quizzes -Midterm examination. -Final examination. -Class discussion and participation. - Homework (Problem-solving).
1.2	Describe different types of seeds and	K2	-Lectures. -Class discussion.	-Quizzes

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
	methods of seed germination.		-Group discussion. -Homework assignments. -Case studies.	-Midterm examination. -Final examination. -Class discussion and participation. -Homework assignments.
2.0	**Skills**			
2.1	Differentiate morphologically between monocot & dicot, seeds, roots, stems, and leaves.	S3	-Lectures. -Lab work. -Short essay -Class discussion. -Group discussion. -Brainstorming.	-Quizzes -reports -Final examination. -Class discussion and participation. - Homework (Problem-solving).
2.2	Examine the morphological structure of the primary plant body of monocot & dicot root, stem, and leaves.	S2	-Lectures. -Lab work. -Class discussion. -Group discussion. -Brainstorming.	-Quizzes -reports -Final examination. -Class discussion and participation. - Homework (Problem-solving).
2.3	Compare the structure and germination of	S5	-Lectures. -Lab work.	-Quizzes -reports

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
	different types of seeds.		-Short essay -Class discussion. -Group discussion. -Brainstorming.	-Final examination. -Class discussion and participation. - Homework (Problem-solving).
3.0	**Values, autonomy, and responsibility**			
3.1	Work independently as a member or as a team in a germination and examination of plant parts project.	V1	-Short essay -Class discussion. -Group discussion.	-Class discussion and participation. -Homework (Problem-solving).

C. Course Content

No	List of Topics	Contact Hours
1.	Introduction to Botany	2
2.	Seed and seed Germination	2
3.	Morphology of Roots and their modifications.	2
4.	Morphology of Stems and their modifications.	2
5	Morphology of Leaves and their modifications	2
6.	Anatomy of Roots (Monocot)	2
7.	Anatomy of Roots (Dicot)	2
8.	Anatomy of Stems (Monocot)	2
9.	Anatomy of Stems (Dicot)	2
10.	Anatomy of Leaves (Monocot)	2
11.	Anatomy of Leaves (Dicot)	2
12.	Morphology of The Flower and Inflorescence / Fruits	2
13.	Mineral, Nutrient and Water Transport in Plants	2
14.	Growth Responses and Regulation of Growth (Part1).	2
15.	Growth Responses and Regulation of Growth (Part2).	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	- Wilhelm Nultsch (2013): General Botany. Academic Press
Supportive References	- Campbell et al. (2007): Biology. Benjamin-Cummings Publishing Company - Bendre, A. M. (2008): Practical Botany. Rastogi Publications, India.
Electronic Materials	- A text book of General Botany (2011): Gilbert M Smith - A Classbook of Botany (2000): A.C. Dutta.
Other Learning Materials	- American Society for Plant Biologists. - Botanicus.

2. Required Facilities and equipment

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	- A sufficient number of classrooms to accommodate students. - Well-equipped practical laboratories to accommodate students. - Virtual session provided by the blackboard (which allows discussion and sharing PowerPoint and - videos.
Technology equipment (projector, smart board, software)	- Data show. - Wireless connection in the building for students and faculties.
Other equipment (depending on the nature of the specialty)	- A number of plant materials are required. - Anatomy microscope. - Different types of seeds and plant fresh samples. - Pots for seed germination.

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