



Course Specifications

Course Title:	General Botany 2
Course Code:	BIO341
Program:	Bachelor of Science in Biology
Department:	Department Of Biology
College:	Faculty of Science
Institution:	University of Tabuk

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A. Course Identification

1. Credit hours: 3 (2 Theoretical + 1 Practical) hours
2. Course type
a. University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/>
b. Required <input checked="" type="checkbox"/> Elective <input type="checkbox"/>
3. Level/year at which this course is offered: Level 5/ First semester/ Third year
4. Pre-requisites for this course (if any): General Botany (BIO241)
5. Co-requisites for this course (if any): None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	2	50%
2	Blended		
3	E-learning		
4	Distance learning		
5	Laboratory	2	50%

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	26
2	Laboratory/Studio	26
3	Tutorial	
4	Others (specify)	
	Total	52

B. Course Objectives and Learning Outcomes

1. Course Description

- The course includes introduction and historical background of Botany, general characters of living organisms with emphasis on plants, Systems of classification; the concept of identification, classification and nomenclature; the concept of cell, general characters of each of algae, Bryophytes, Pteridophytes, Gymnosperms and Angiosperms including reproduction and life cycle, taxonomically studies on some plant families (monocot and dicot) and the evolutionary relationship between the different plant groups.

2. Course Main Objective

By the end of this course, the students should be able to:

- Providing students with modern information and understanding the specific characteristics of living organisms.
- Introducing students to the scientific concept of science terms partition, label scientific, and different systems of classification.
- Developing student's ability to learn and understand the evolutionary relationship between different groups of plants.
- Developing the skills of students to distinguish between monocot and dicot plant families.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	Knowledge and Understanding	
1.1	To define the basics, general concepts, terminology describing macroscopically observable plant structures	K1
1.2	To describe the general principles of plant taxonomy and the Linnaean binomial system of nomenclature.	K2
2	Skills :	
2.1	To evaluate adaptation advantages that vascular plants have over nonvascular plants.	S3
2.2	To state the major differences between gymnosperms and angiosperms.	S2
2.3	To analyze the vegetative and floral characteristics, floral diagram and floral formula.	S1
3	Values:	
3.1	To show cooperative behavior in dissection, examination, sketching of different plant parts	V1

C. Course Content

1-Theoretical Part:

No	List of Theoretical Topics	Contact Hours
1	Introduction to botany, plant history and plant in relation to life science	2
2	General characters of living organisms [especially for plants].	2
3	Systems of classification; the concept of identification, classification and nomenclature; the concept of cell.	2
4	Systems of classification; the concept of identification, classification and nomenclature; the concept of cell.	2
5	General characters of algae including reproduction and life cycle.	2
6	General characters of algae including reproduction and life cycle.	2
7	General characters of algae including reproduction and life cycle.	2
	Mid Term Exam	
8	General characters of bryophytes including reproduction and life cycle.	2
9	General characters of Pteridophytes including reproduction and life cycle.	2
10	General characters of Gymnosperms including reproduction and life cycle.	2
11	General characters of Angiosperms including reproduction and life cycle.	2
12	Taxonomical studies on some plant families (monocot. & dicot).	2
13	The evolutionary relationships between the different plant groups	2
	Final Exam	
Total		26



2-Practical Part:

No	List of Practical Topics	Contact Hours
1	Introduction to Plant Kingdom, Essential Instrument and Facilities.	2
2	Study structure of Chlamydomonas	2
3	Study structure of Volvox	2
4	Study structure of Spirogyra.	2
5	Study structure of a brown alga Sargassum.	2
6	Study structure of Porella	2
7	Study structure of Marchantia	2
	Midterm Exam	
8	Study structure of Anthoceros	2
9	Study structure of Selaginella	2
10	Study structure of Pteris	2
11	Study structure of Cycas	2
12	Study of flowering plant monocot families	2
13	Study of flowering plant dicot families	2
	Final Practical Exam	
Total		26

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge and Understanding		
1.1	To define the basics, general concepts, terminology describing macroscopically observable plant structures.	<ul style="list-style-type: none"> - Lectures. - Case study and articles - Activities and homework. 	<ul style="list-style-type: none"> - Periodic exams. - Final exams. - Quizzes - Homework.
1.2	To describe the general principles of plant taxonomy and the Linnaean binomial system of nomenclature.		
2.0	Skills		
2.1	To evaluate adaptation advantages that vascular plants have over nonvascular plants.	<ul style="list-style-type: none"> - Lectures. - Individual and small group tasks. - Short essay. - Lab demonstration, dissection and drawing skills. - Individual presentation and working as a part of group. 	<ul style="list-style-type: none"> - Assessment of lab reports and practical examination. - Individual and group presentation - Case study. - Demonstration through charts and posters. - Periodic exams.
2.2	To state the major differences between gymnosperms and angiosperms.		
2.3	To analyze the vegetative and floral characteristics, floral diagram and floral formula.		



			- Final exams.
3.0	Values		
3.1	To show cooperative behavior in dissection, examination, sketching of different plant parts.	<ul style="list-style-type: none"> - Essay writing. - Lab demonstration. - Individual & group presentation. 	<ul style="list-style-type: none"> - Oral and written scientific report. - Interactive discussion and participation. - Work in groups.

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes + Assignments + Class discussion	1-13	10%
2	Midterm Theoretical Exam	8	25%
3	Midterm Practical Exam	8	10%
4	Final Practical Exam	14	15%
5	Final Theoretical Exam	15	40%

*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- Office hours 6 hr/ week at least.
- Academic Guidance for about 30 students as determined by admission and registration.
- Direct supervision of staff for lab works.
- Electronic communication through blackboard and email.

E. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	<ul style="list-style-type: none"> - Biology: Concepts and Connections- Campbell et al., Pearson International, 6th edition. - General Botany – Gilbert M. Smith (2007). 3rd Ed. New York, the Macmillan Co. 1937.
Essential References Materials	<ul style="list-style-type: none"> - Martin, J.; Leonard, W.; Stamp, D. (1976), Principles of Field Crop Production (Third Edition), New York: Macmillan Publishing Co., Inc., ISBN 0-02-376720-0 - EG Cutter (1977) Plant Anatomy Part 1. Cells and Tissues. Edward Arnold, London - PH Raven, Evert RF, Eichhorn SE (1999) Biology of Plants, 6th edition. WH Freeman, New York - Campbell, Neil A.; Jane B. Reece (2002). Biology (6th Ed.). Benjamin Cummings - Benjamin Cummins (2007), Biological Science (3 ed.), Freeman, Scott, p. 215



	- Debbie Swarthout and C.Michael Hogan. 2010. Stomata. Encyclopedia of Earth. National Council for Science and the Environment, Washington DC.
Electronic Materials	- Biology: Concepts and Connections- Campbell et al., Pearson International, 6th edition.
Other Learning Materials	- www.sciencedirect.com

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	<ul style="list-style-type: none"> - A sufficient number of classrooms to accommodate students - Well-equipped practical laboratories to accommodate students - Virtual session provided by the blackboard (which allow discussion and sharing PowerPoint and videos.
Technology Resources (AV, data show, Smart Board, software, etc.)	<ul style="list-style-type: none"> - Data show - Wireless connection in the building for students and faculties.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	<ul style="list-style-type: none"> - A number of plant materials are required. - Anatomy microscope, compound microscope, dissection tools, permeant slides of different plant tissues and Algae, Archegonium & antheridium. - Models flower of (Monocot & Dicot) - Plant and algae fresh samples - Dichotomous key for classification, classification references and books

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment.	- Students.	Indirect - Questionnaires.
The extent of achieving the course learning outcomes.	<ul style="list-style-type: none"> - Program committee. - Staff members. - Students. 	Direct - Questionnaires. - Reports. - Meetings
Quality of learning resources.	<ul style="list-style-type: none"> - Program leaders. - Peer Reviewer. 	Direct & Indirect - Questionnaires. - Reports. - Meetings

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

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

Assessment Methods (Direct, Indirect)



F. Specification Approval Data

Council / Committee	Biology Department Council
Reference No.	
Date	1/6/2022