هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

Course Specifications

Course Title:	**Archegoniates**
Course Code:	**242 BOT**
Program:	**Biology**
Department:	**Biology**
College:	**Science**
Institution:	**Jazan University**

Table of Contents

A. Course Identification

1. Credit hours: Two hours
2. Course type **a.** University ☐ College ☐ Department ☒ Others ☐ **b.** Required ☒ Elective ☐
3. Level/year at which this course is offered: Four / Two
4. Pre-requisites for this course (if any)**: 241 BOT**
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**	**13**	**86.7**
2	**Blended**	2 H	13.3
3	**E-learning**	-	-
4	**Distance learning**	-	-
5	**Other**	-	-

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	15
2	**Laboratory/Studio**	30
3	**Tutorial**	-
4	**Others** (specify)	-
	Total	45

B. Course Objectives and Learning Outcomes

1. Course Description

Course Description:

Course Title	Course No.	Credit Units			Year	Level	Pre-Requisite
		Theoretical	Practical	Total			
ARCHEGONIATES	242BOT	1	1	2	2nd	4th	241BOT

1) Course Objectives:

Introduction to Bryophtes and Pteridophytes, their evolutionary position, habitats, life cycles, and structure and anatomy of examples representing each group

2) Course Contents:

Kingdoms of Living Organisms, Bryophytes (General Characteristics, Origin), Prostrate Bryophytes (Habitat, Gametophyte, Sporophyte, Life Cycle, Riccia, Marchantia, Anthoceros) – Erect Bryophytes (Habitat, Gametophyte, Sporophyte, Life Cycle, Funaria) – Evolutionary Considerations in Bryophytes – Pteridophytes (General Characteristics, Origin) – Evolutionary Considerations in Pteridophytes (Vascular Tissue, Evolution of Stele) – Pteridophytes (Habitat, Sporophyte, Gametophyte, Life Cycle, Rhynia, Psilotum, Lycopodium, Selaginella, Marsilea, Pteridium, Equisitum).
Gymnosperms: General Characters, Classification, Life cycle of Cycas and Pinus.

3) Practical:

Microscopic examination of slides of structures of examples representing each group

4) Assessment:

Exams: Essay/Objective, oral, class work, research work, translations
Practical: Identifying samples and slides, drawings.
Quiz 20%
Practical 30%
Final 50%

5) Teaching Methods:

Lectures, photographs, slides, multimedia, web-based learning. Samples, Light microscopes, glassware, chemicals.

6) Text Books:

7) References:

Vashista B.R. (2009) Botany Degree Classes. Bryophyta. Indian Bookstore, New Delhi.
Vashista B.R. (2009) Botany Degree Classes. Pteridophyta. Indian Bookstore, New Delhi.
Vasishta, P. C., Sinha, A. K. and Anil Kumar (2009). Botany for degree students : Gymnosperms. S. Chand & Company Pvt. Ltd. New Delhi.

www.rmbr.nus.edu.sg/research/terrestrial/bryophytes

www.rmbr.nus.edu.sg/research/terrestrial/pteridophytes

https://courses.lumenlearning.com/boundless-biology/chapter/gymnosperms/

2. Course Main Objective

Taxonomy, Morphology, Anatomy and Evolutionary significance of Non-flowering plants which spread over three major groups such as Bryophytes, Pteridophytes and Gymnosperms.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Define all principals, concepts, theories and aspects concerning with non-flowering plants(Archegoniates).	K1.1
1.2	Differentiate (Compare) between different mechanisms, functions, practices and aspects related to non-flowering plants (Archegoniates).	K2.1
1.3	Draw all systems, organs, cells and its contents, diagrams and figures of non-flowering plants (Archegoniates).	K2.3
1.4	Classify all biological specimens and processes related with non-flowering plants (Archegoniates).	K3.3
2	**Skills**	
2.1	Examine theoretically or practically the slides, photos, diagrams or statements of non-flowering plants.	S1.3
3	**Values:**	
3.1	Develop competencies in critical thinking, delivering scientific information, reporting and data analysis.	V3.2

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Archegoniates	1
2	Bryophytes General Characteristics Overview, Evolutionary Aspects	1
3	Bryophytes *Riccia*	1
4	Bryophytes *Marchantia*	1
5	Bryophytes- *Anthoceros*	1
6	Bryophytes -*Funaria*	1
7	Pteridophytes (General Characteristics, spore bearing structures Vascular Tissues) (*Rhynia*, *Psilotum*).	1
8	Pteridophytes (*Lycopodium*, *Selaginella*)	1
9	Pteridophytes (*Equisetum*).	1
10	Pteridophytes (*Marsilea*)	1
11	Pteridophytes (*Pteridium*)	1
12	Pteridophytes-steles	1
13	Gymnosperms- General characters	1
14	Gymnosperms- *Cycas*	1
15	Gymnosperms- *Pinus*	1
Total		15

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	Define all principals, concepts, theories and aspects concerning with non-flowering plants(Archegoniates)	Lectures, demonstration	Quizzes, Short Answer Question, MCQs
1.2	Differentiate (Compare) between different mechanisms, functions, practices and aspects related to non-flowering plants (Archegoniates).	Lectures, demonstration	Quizzes, Short Answer Question, MCQs
1.3	Draw all systems, organs, cells and its contents, diagrams and figures of non-flowering plants (Archegoniates).	Lectures, Lab work	Quizzes, Short Answer Question, MCQs
1.4	Classify all biological specimens and processes related with non-flowering plants (Archegoniates).	Lectures, Lab work	Quizzes, Short Answer Question, MCQs
2.0	**Skills**		
2.1	Examine theoretically or practically the slides, photos, diagrams or statements of non-flowering	Lectures, Lab work,	Quizzes, Short Answer Question
3.0	**Values**		
3.1	Develop competencies in critical thinking, delivering scientific information, reporting and data analysis.	Group Discussion, Demonstration,	Quizzes, Assignments, PowerPoint presentations

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Theoretical quiz 1	4	5
2	Practical Quiz	6	5
3	Mid-term exam Theory	7	10
4	Theoretical Assignment	12	5
5	Practical Assignment	13	5
6	Final practical exam	13	20
7	Final l exam	15	50

***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 :

10 Office hours/faculty/week.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Pandey, S. N., Shital, P., Misra, P. and S. Trivedi.(2013). A Textbook of Botany: Bryophyta, Pteridophyta, Gymnosperms and paleobotany. Vikas Publishing House. New Delhi.
Essential References Materials	Vashista B.R. (2009) Botany Degree Classes. Bryophyta. Indian Bookstore, New Delhi. Vashista B.R. (2009) Botany Degree Classes. Pteridophyta. Indian Bookstore, New Delhi. Vasishta, P. C., Sinha, A. K. and Anil Kumar (2009). Botany for degree students : Gymnosperms. S. Chand & Company Pvt. Ltd. New Delhi.
Electronic Materials	www.rmbr.nus.edu.sg/research/terrestrial/bryophytes www.rmbr.nus.edu.sg/research/terrestrial/pteridophytes https://courses.lumenlearning.com/boundless-biology/chapter/gymnosperms/
Other Learning Materials	Various web resources and You tube videos

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	1 Lecture room(s) for groups of 50 students. 1 Laboratory for group of 25 students.
Technology Resources (AV, data show, Smart Board, software, etc.)	AV, data show, Smart Board.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Light microscopes, glassware, chemicals, consumables, Dissection tools.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching	Students, Faculty	Direct(Questionnaire)
Effectiveness of Assessment	Peer Reviewer	Direct(Cross Check marking)
Extent of achievement of course learning outcomes	Program Leader	Indirect(QA Committee)
Quality of learning resources	QA Committee	Indirect(Benchmarking)

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)

H. Specification Approval Data

Council / Committee	Biology Program QA Commitee
Reference No.	
Date	18-02-2021