



Salahaddin University -Erbil
College of Science
Department of Biology



Subject: Archegoniate plant
Course Book: (Year 2)
Lecturer's name: Assist. Prof. Yadi Omer Mustafa (Theory)
Assistant lecturer Lanja O. Taher (Practical)
Academic Year: 2022/2023 (Second Semester)

Archegoniate Course Book

1. Course name	Archegoniate plant
2. Lecturer in charge	Yadi Omer Mustafa
3. Department/ College	Biology-Science
4. Contact	e-mail: yadi.mustafa@su.edu.krd Tel: (optional)
5. Time (in hours) per week	2hr./ week
6. Office hours	To be Return to the schedule on the office door
7. Course code	SBio 203
8. Teacher's academic profile	<ul style="list-style-type: none"> • I graduate from Salahaddin University, department of Biology in 1991(Ranked 1st in collage) worked as assistant biology for less than one year and assist in practical Sewage Microbiology lab., practical Ecology lab. In 1995 I finished my M.Sc. degree in Phycology and start as Assistant Lecturer teaching practical Ecophysiology lab, practical Plant anatomy practical plant physiology. • From 1997 to 2008 I teach practical Phycology and archegoniate plant lab for the 2nd class students in Biology department. • In "1998", I teach practical Phycology and archegoniate plant lab for the 2nd class students in Biology department, college of Education, Salahaddin University, Iraq. • In "2008", I moved to Environmental Sciences department, a new department which opened in college and started teaches Phycology and Plant communities Theory and supervising the Practical lab for the 2nd class students. • I worked as a member of scientific committee and department committee • Participate in training course about the ways of teaching and their methods (Ranked 2nd in group) • I made three scientific research so my title changed from Assistant Lecturer to Lecturer • I worked as a head of health and safety committee in environmental science before moved to Biology department. • From 2011 till 2016 I teach academic debate for 1st stage. • In 9/9/2020 my academic title rises to Assistant professor. • In November 2020 I started teaching Algae Theory in at the first semester and Archegoniate plant at the second semester and till now.
9. Keywords	Bryophytes, Pteridophytes, Coniferophytes
10. Course overview:	
1. The course will cover archegoniate plants.	
2- Texts, topics together with print media or internet articles which deal with current plant life	

cycle issues.

3- Instructional strategies attempt to strike a balance between developing the students' ability to cope with archegoniate, extending their general academic reading skills, and increasing their basic knowledge and understanding of archegoniate.

4- The course will give students a better understanding of a number of archegoniate plant life cycle topics, the followings are examples but not restricted to: Growth, Life cycles, Forms of plants, Morphological appearance, Taxonomy of archegoniate plants, anatomy of different parts (root, stem, leaf, and reproductive parts) and occurrence.

11. Course objective:

* Division: Bryophyta, General characters, classification.

* Class: Hepaticopsida, General characteristics, Order: Marchantiales, 1-Family: Ricciaceae, *Riccia* sp., Occurrence, A. External morphology, a) Dorsal surface, b) Ventral surface, B. Anatomy of thallus, C. Structure of antheridium, D. Structure of the archegonium, E. Sporophyte, 2- Family: Marchantiaceae, *Marchantia* sp., Occurrence, Gametophyte, A) External morphology, B) Internal structure, C) Sex Organs, Male sex organs-antheridiophore and antheridium, Female sex organs-archegoniophore and archegonium, Sporophyte,

* Class: Anthocerotopsida, Order: Anthocerotales, Family: Anthocerotaceae, Genus: *Anthoceros*, Occurrence, A) External morphology, B) Anatomy of the thallus, C) Sex Organ, 1) Antheridium, 2) Archegonium, D-Sporophyte

* Class: Bryopsida (Mosses), General characteristics of Bryopsida, Sub- class: Sphagnobrya, Order: Sphagnales, Family: Sphagnaceae, *Sphagnum* sp., External morphology, Anatomy of leaves, Anatomy of axis, Sex organs, Antheridial branches and antheridium, Archegonial branches and archegonium, Sporophyte, Importance of *Sphagnum* sp.

* Class: Bryospida (Musci), Subclass: Eubrya (True mosses), Genera: 1- *Mnium*, 2- *Polytrichum* and *Funaria*, Occurrence of Eubrya (*Mnium*, *Polytrichum*, *Funaria*), A. External morphology, B. Anatomy of the axis, C. Sex-organs, 1. Antheridial branch and antheridium, 2. Archegonial branch and archegonium, D. Sporophyte,

* Polytrichales, Family Polytrichaceae, 1.- *Polytrichum*, 2- *Mnium*,

* Funariales, Family Funariaceae, Family Funariaceae, Genus *Funaria*

* Pteridophytes, General characters, Microphyllous, Macrophyllous, Sporophyll, Prothallus, Strobilus, Sporocarp, Sori.

* Division: Sphenophyta (or Calamophyta or Arthrophyta), General characters, *Equisetum* (Horsetail), Class: Calamtopsida, Order: Equisetales, Family: Equisetaceae, Genus: *Equisetum*, External morphology, Strobilus of *Equisetum*, Anatomy of stem. Reproduction and life cycle.

* Lycophyta, General characteristics, Class: Eligulopsida, Class: Ligulopsida, Order: Lycopodiales, Family: Lycopodiaceae, Genus: *Lycopodium* (club moss, ground pine), *Selaginella*, Reproduction and life cycle, Internal structure, Root, Stem,

* Polypodiophyta (The Ferns), Structure and Form, Reproduction and life cycle, *Marsilea*, *Salvinia*.

12. Student's obligation

Exam policy: Student Should take 2 exams during the course There will be no make-up exams for absences students without medical report.

Classroom polices:

- 1- **Attendance:** You are strongly encouraged to attend class on a regular basis, as participation is important to your understanding of the material. This is your opportunity to ask questions. You are responsible for obtaining any information you miss due to absence.
- 2- **Lateness:** Lateness to class is disruptive.
- 3- **Electronic devices:** All cell phones are to be turned off at the beginning of class and put away during the entire class.
- 4- **Talking:** During class please refrain from side conversations. These can be disruptive to your fellow students and your professor
- 5- **No Disrespectful** to both the professor and to your fellow students.

13. Forms of teaching

Data show (PowerPoint), course book, White board

14. Assessment scheme

Component	Date	Percent
Exam1	--/--/2023	100% (convert to out of 10)
Activity	--/--/2023	50 %(convert to out of 5)
Quiz		
Total		
The total mark converted to be out of 15		

15. Student learning outcome:

After completion of this course, you will be able to:

- Define common terms used in archegoniate plant and the history of their study in our area.
- Identification and systematics of archegoniate plant that found in our area.
- Understanding the relationship between archegoniate plant and environment.
- Advantage and disadvantage of archegoniate plant.
- Understanding the role of archegoniate plant in food chain.
- Explanation the mode reproduction in different types of these lower plants.
- Relation of archegoniate plant to other terrestrial and aquatic organisms.
- Demonstrate the life cycle of common archegoniate plant.

16. Course Reading List and References:

1- Cryptogamic Botany Vol. 2, 1954, by G. M. Smith, 5th edition, the McGraw - Hill companies.

- 2- A textbook of Botany Vol. 1, 2008, by Hait, Bhattacharya, Ghosh, 2nd edition, New central book agency (P) Ltd.
- 3- Vanderpoorten, A. and B. Goffinet (2009). Introduction to Bryophytes, Cambridge University press.
- 4- Goffinet, B. and A. Jonathan Shaw (2009). Bryophyte Biology. Cambridge University press
- 5-Raven, P. H., Evert, R. F. ,Eichhorn, S. E. (1999). Biology of plants. W. H. Freeman and Company Worth publishers

17. The Topics:

Division: Bryophyta
 Class: Hepaticopsida
 Class: Anthocerotopsida
 Class: Bryopsida (Mosses)
 Order: Polytrichales
 Order: Funariales
 Division: Sphenophyta
 Division: Lycophyta

18. Practical Topics (If there is any)

Date	Topic
Week1	Division: Bryophyta, General characters, classification.
Week2	Class: Hepaticopsida, General characteristics, <i>Riccia</i> sp., Structure of antheridium, Structure of the archegonium, Sporophyte, <i>Marchantia</i> sp., Male sex organs-antheridiophore and antheridium, Female sex organs-archegoniophore and archegonium, Sporophyte
Week3	Class: Anthocerotopsida, Genus: <i>Anthoceros</i> , Sex Organ, 1) Antheridium, 2) Archegonium, D-Sporophyte
Week4	Class: Bryopsida (Mosses), <i>Sphagnum</i> sp., Anatomy of leaves, Anatomy of axis, Sex organs, Antheridial branches and antheridium, Archegonial branches and archegonium, Sporophyte, Importance of <i>Sphagnum</i> sp.
Week5	Class: Bryopsida (Musci), Subclass: Eubrya (True mosses), Genera: 1- <i>Mnium</i> , 2- <i>Polytrichum</i> and <i>Funaria</i> , A. External morphology, B. Anatomy of the axis, C. Sex-organs, 1. Antheridial branch and antheridium, 2. Archegonial branch and archegonium, D. Sporophyte,
Week6	Polytrichales, 1.- <i>Polytrichum</i> , 2- <i>Mnium</i> ,
Week7	Funariales, Family Funariaceae, Family Funariaceae, Genus <i>Funaria</i> , life cycle and reproduction
Week8	First Examination
Week9	Pteridophytes, Microphyllous, Macrophyllous, Sporophyll, Prothallus, Strobilus, Sporocarp, Sori.
Week10	Division: Sphenophyta (or Calamophyta or Arthrophyta), General characters, <i>Equisetum</i> (Horsetail), Class: Calamtopsida, Genus:

	<i>Equisetum</i> , Strobilus of <i>Equisetum</i> , Anatomy of stem. Reproduction and life cycle.
Week11	Lycophyta, Class: Eligulopsida, Class: Ligulopsida, Genus: <i>Lycopodium</i> (club moss, ground pine), <i>Selaginella</i> , Reproduction and life cycle, Internal structure, Root, Stem.
Week12	Polypodiophyta (The Ferns), Structure and Form, Reproduction and life cycle, <i>Marsilea</i> , <i>Salvinia</i> .
Week13	Second Examination

19. Examinations:

1. Definition of terms such as (Paroicous mosses, Apogamy, Obligatory alternation of generation)

2. Compositional: In this type of exam the questions usually starts with Explain how, What are the reasons for...?, Why...?, How....? With their typical answers

- * Describe the antheridium in the genus *Sphagnum*.
- * Write the differences between stem of this two genera.
- * Mention the sex organs for the following genera.

3. Fill blanks

4- Choose right answers

20. Extra notes:

21. Peer review

This course book has to be reviewed and signed by a peer. The peer approves the contents of your course book by writing few sentences in this section.

(A peer is person who has enough knowledge about the subject you are teaching, he/she has to be a professor, assistant professor, a lecturer or an expert in the field of your subject).