

## **SYLLABUS**

**BOT 213- SEED PLANTS (2 units, Required; LH: 30)**

**Department of Biological Sciences  
Faculty of Science  
University of Delta, Agbor, Delta State, Nigeria.**

**Second Semester, 2022/2023 Academic Session**

**Lecturers:** Dr. (Mrs) P. C. Chijindu (Lead), Mrs P. C. Okubor, Dr. T.E. Konyeme, Dr. U.A. Akporobaro & Mrs J. A. Obiaigwe.

**Office Location:** FOS Complex, Department of Biological Sciences.

**Office Hours:** Monday, Tuesday, Thursday 9:00 am - 4:00 pm

Wednesday & Friday 9:00 am- 2:00 pm

Contact me preferably in person or via email.

**Email:** [pass.chijindu@unidel.edu.ng](mailto:pass.chijindu@unidel.edu.ng)

**Meeting Time and Place:** Wednesday, 8:00 am to 10:00 am, FOS LR 4

### **Attendance**

75% attendance is compulsory for every student. Ensure you notify your course representative of your absence in the event you cannot make it to class at any given time.

### **Methods of Instruction**

This syllabus is a summary of all that will be covered in this course. Students should from time to time visit the class web page maintained on the University Website to get latest information, assignments and practical lessons guide. Ensure you carry out all task given by the lecturers on the class web page, to enhance your understanding of the course.

### **Overview**

Seed plants also called Spematophytes and phanerogams are members of the over 300,000 species of seed-bearing vascular plants. The term spermatophyte is used to refer collectively to the angiosperms (flowering plants) and gymnosperms including (1) conifers (pines, cypresses,

firs), (2) cycads (they are palm-like gymnosperms) (3) Gnetophytes (Gnetum, Ephedra and Welwitschia), and (4) Ginkgo (a single living species)}.

### **Objectives:**

The course aims to give the students an understanding of seed plants. At the end of the course, students are expected to:

1. achieve a good working knowledge of the concepts, principles, and recent discoveries in plant taxonomy and ecology,
2. gain an overview of the seed plants diversity, including the most rich plant species, their families, ability to place each plant species in any botanical order in their overall context,
3. learn ways in which their knowledge can be applied to ecology and evolutionary biology
4. gain appreciation of how current research in the field of plant biology is being done by reading current research journals and
5. Explain the characteristics of gymnosperm plants.

### **Learning Outcomes**

A student who has successfully gone through this course should be able to:

1. point out the similarities and differences between gymnosperms and angiosperms plants,
2. describe the morphology and anatomy of gymnosperms and angiosperms plants,
3. describe the basic structures of gymnosperms and angiosperms plants,
4. recognize the major classes in gymnosperms and angiosperms plants and
5. differentiate the general characteristics of gymnosperms and angiosperms plants

### **Course Contents**

Evolution and ecological distribution of seed plants. Classification of Seed plants. The main structural and functional features of gymnosperm and angiosperm plant and its parts – leaves, stems, roots, flowers and fruits. These structures are treated in relation to functions such as plant water relations, nutrition, photosynthesis, respiration, growth and development, reproduction and movement.

Lecture Schedules/Lecturers in Charge

WEEK(S)	TOPICS	LECTURER IN CHARGE
1	<b>INTRODUCTION TO SEED PLANTS</b> - Evolution and Ecological distribution of seed plants	MRS OKUBOR, P. C.
2-3	<b>GENERAL CLASSIFICATION OF SEED PLANTS</b> -General features of each group -Families and typical examples -Economic importance	DR. KONYEME, T. E.
4-5	<b>GYMNOSPERMS</b>	DR. AKPOROBARO, U. A.
4	-Structural/Morphological and functional features of the leaves stem and roots of typical gymnosperms.	
5	-Reproduction in Gymnosperms <ul style="list-style-type: none"> <li>• -Flowers</li> <li>• -Pollination</li> <li>• -Fertilization</li> <li>• -Embryo development</li> <li>• -Fruit formation</li> </ul>	DR. AKPOROBARO, U. A.
6-8	<b>ANGIOSPERMS</b>	DR. (MRS) CHIJINDU, P. C.
6	- Structural/Morphological and functional features of the leaves stem and roots of typical angiosperms.	
7	-Reproduction in Angiosperms <ul style="list-style-type: none"> <li>• Flower</li> <li>• Pollination</li> <li>• Fertilization</li> <li>• Embryo development and fruit formation</li> </ul>	DR. (MRS) CHIJINDU, P. C.

8	<ul style="list-style-type: none"> <li>• <b>Placentation</b></li> <li>• <b>Classification and types of fruits</b></li> <li>• <b>Fruit and seed dispersal</b></li> <li>• <b>Germination</b></li> </ul>	<b>MRS OBIAIGWE, J.A.</b>
9	<b>GROWTH AND DEVELOPMENT OF ANGIOSPERMS</b>	<b>DR. KONYEME, T. E .</b>
10	<b>NUTRITION (PHOTOSYNTHESIS) AND WATER RELATIONS</b>	<b>MRS OBIAIGWE, J.A.</b>
11	<b>RESPIRATION</b>	<b>MRS OKUBOR, P. C.</b>
12	<b>REVISION</b>	<b>ALL PSB LECTURERS</b>

### **Examination Schedule**

- Attendance
- Assignment
- Class Test
- Interactive Sessions
- End of Semester Examination

### **Grading**

Attendance: 5 % of Grade

Assignment: 10% of Grade

Class Test: 10% of Grade

Interactive Sessions: 5% of Grade

End of Semester Examination: 70% of Grade

### **Practical Exercises**

1. Morphological and anatomical examination of Microscopic slides of the roots, stem and leaves of angiosperm/gymnosperm plants.
2. Identification and description of various floral parts and their distinguishing features.

### **Text & References**

Dutta, A.C. (2007) Botany for degree students. Revised 6<sup>th</sup> edition, Oxford University Press, New Delhi, 570p.

### **Student Conduct**

Students enrolled at the University of Delta, Agbor must adhere to the rules and regulations of the University, especially regarding common decency and acceptable behaviour. The code of student conduct is described in detail in the student handbook or University website.

### **Academic Honesty**

All students of the University shall abide by the tenets of common decency and acceptable conduct, conducive for a healthy learning environment. It is the thrust of the University not to tolerate any form of plagiarism or examination misconduct. Plagiarism refers to the deliberate use of another's work and claiming it as one's own intellectual property. This means using ideas, as well as texts or data whether paraphrased or presented verbatim. Proper citation of sources must be done. Also, cheating in any examination is not allowed. If one is caught plagiarizing other people's work or cheating in the examination, appropriate sanctions will be meted out to the offender. Find out from the student web page of the University, what constitutes academic dishonesty.