

Department of Biology College of Education University of Salahaddin

Subject: Practical Plant Taxonomy Lecturer's name: Trifa Dhahir Saber Academic Year:2023/2024

**Course Book**

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| **1. Course name** | Practical Plant Taxonomy |
| **2. Lecturer in charge** | Trifa Dhahir Sber |
| **3. Department/ College** | Biology/Education |
| **4. Contact** | e-mail: [trifa.saber@su.edu.krd](mailto:trifa.saber@su.edu.krd) |
| **5. Time (in hours) per week** | Practical: 18 |
| **6. Office hours** |  |
| **7. Course code** |  |
| **8. Teacher's academic profile** | There is no doubt that the teacher as a main factor of the teaching process, has a very good and important role in performance the teaching program and preparing the students, she is the follower of the results of teaching process and try to progress this process. The teacher is an affected factor among the teaching factors, and has effect on the student’s characters and their future, therefor; the teacher must beware in his treatment with the students and the teaching staff. For all the progress that take place in the world, in all the fields, such as cultural, social, scientific, technology, etc., the teacher must suit himself with all these changes and benefit from them in order she can finally to reach these benefits to all peoples that she treats with them. |
| **9. Keywords** |  |
| **10. Course overview:**  Plant Systematicsis an introduction to the morphology, evolution, and classification of land plants. The objective is to present a foundation of the approach, methods, research goals, evidence, and terminology of plant systematics and to summarize information on the most recent knowledge of evolutionary relationships of plants as well as practical information vital to the field. Systematics, gives a general overview of the concepts and methods of the field of systematics. An introduction to the definition, relationships, classification, and importance of plants and summarizes the basic concepts and principles of systematics, taxonomy, evolution, and phylogeny must be involved. Evolution and Diversity of Plants, describes the characteristics and classification of plants. The beginning student may be given a basic understanding of the evolution of Green and Land Plants, Vascular Plants, Woody and Seed Plants, and Flowering Plants evolutionary approach to plant systematics makes learning the major plant groups and their features conceptually.The student may learn to recognize and know the basic features of the major lineages of plants, diagnostic features that a student might use to recognize a plant family, and some economically important uses of family members. Plant collecting and documentation emphasizes both correct techniques for collecting plants and thorough data acquisition, the latter of which has become increasingly important today in biodiversity studies and conservation biology. Information on herbaria and data information systems reviews the basics of herbarium management, emphasizing the role of computerized database systems in plant collections for analyzing and synthesizing morphological, ecological, and biogeographic data. A list of characters used for detailed plant descriptions may give, this list is useful in training  students to write descriptions suitable for publication. Students need to learn to draw, in order to develop their observational skills. Finally, I would like to propose that each of us, | |

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| instructors and students, pause occasionally to evaluate why it is that we do what we do, this offer these suggestions as possible goals: 1- to realize and explore the beauty, grandeur, and intricacy of nature; 2- to engage in the excitement of scientific discovery; 3- to experience and share the joy of learning. |
| **11. Course objective:**  Taxonomy is a science that includes identification, nomenclature, and classification of objects, and is usually restricted to objects of biological origin; when limited to plants, it is often referred to as systematic botany. Determination of the taxonomic categories is depending on the different characters such as roots, stems, leaves, floral parts, fruits, seeds, plant habit, and habitat; as well as the new fields which depend on the information in Biochemistry, Cytology, Genetics, and Plant Anatomy. The science that deals with the study, nomenclature, and identification of different types of plants, and depends on special rules, principles, and methods is called Plant Taxonomy, while the scientific study of the variations and interactions among plants called Systematic Botany, and the word Classification mean division or arrangement. |
| **12. Student's obligation**  The role of students and their obligations throughout the academic year involve theirattendance in the lectures, drawing all the plates and plant specimens concerning to the lecture, and completion of all daily (quizzes) and monthly tests, exams, and preparing some herbarial plant specimens, as well as collecting fresh plant specimens within the field trips during spring and summer seasons. |
| **13. Forms of teaching**  Different forms of teaching will be used to reach the objectives of the course: definitions, discussions and conclusions, plates and shapes by using Data-show (in power point) as well as using the white board to illustrate the lecture or sides of the lecture for the students. |
| **14. Assessment scheme**  Every the daily (quizzes) tests given 10 marks and finally calculated as a monthly test (100 marks) in addition to the monthly tests (2-3 tests), all these marks calculated as the yearly attempt mark, as well as additional marks will be given to the students whom bringing fresh  plant specimens. |
| **15. Student learning outcome:**  The objective of the course is to present a foundation of the approach, methods, research goals, evidence, and terminology of plant systematics and to summarize information on the most recent knowledge of evolutionary relationships of plants as well as practical information vital to the field.The student may learn to recognize and know the basic features of the major lineages of plants, diagnostic features that a student might use to recognize a plant family, and some economically important uses of family members. When the student be able to recognize and identify the plant specimens she will be able to work in the herbaria, preparing the Floras, national parks, botanical gardens, as well as preparing the scientific researches. The student will learn from Plant Taxonomy and all its subjects that: to realize and explore the beauty, grandeur, and intricacy of nature; to engage in the excitement of scientific discovery; and to experience and share the joy of learning. |
| **16. Course Reading List and References:**  1- Taxonomy of Vascular Plants: George H. M. Lawrence |

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| **17. The Topics:** | **Lecturer's name** |
| **18. Practical Topics (If there is any)** | Lecturer's name |
| **Week1:** Vegetative Characters, Root, Root System, Tap root system, Adventitious root system, and Plant duration.  **Week2**: Stem, Subterranean stems, Aquatic stems, Aerial stems, and Modified or Special stems.  **Week3:** Leaf, Leaf stipules, Phyllotaxy, Leaf Blade Shapes, Blade Apex Shapes, Blade Base Shapes, and Blade Margin Shapes.  **Week4**: Perianth, Calyx Shapes.  **Week5**: Corolla classification: Polypetalous, and Gamopetalous.  **Week6**: Androecium: Stamens number, Heterostemony, and Synstemony.  **Week7**: Androecium: Filament – Anther attachment, and Anther dehiscence.  **Week8:** Gynoecium: Simple Pistil, Compound Pistil, and Pistil Parts.  **Week9:** Bracts, Bracts Shapes, Flowers types according to the perianth, and Flowers types according to the reproductive systems.  **Week10**: Ovary position according to the other floral parts, number of flower cycles, and number of one cycle parts.  **Week11**: Placentation, and Carpels number determination of  compound pistil.  **Week12**: Inflorescence, Solitary Infl., Scapose Infl., Cymose: Racemose Infl., Mixed Infl., and Special Infl.  **Week13**: Fruits, Simple Fruits, Dry Fruits: Capsular Fruits: Dry Fruits: Achenial Fruits, Schizocarp Fruits: Aggregate Fruits, Compound Fruits, Seeds, Seed Surface Configuration, and Seed Gross Morphology.  **Week14**: Taxonomic Key  **Week15**: Family Pinaceae, and Cupressaceae  **Week16**: Family Poaceae, and Cyperaceae. | Trifa Dhahir Saber |

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| **Week17**: Family Liliaceae, Amaryllidaceae, and Iridaceae.  **Week18**: Family Asteraceae, and Rosaceae. **Week19**: Family Fabaceae, and Apiaceae. **Week20**: Family Solanaceae, and Cucurbitaceae. **Week21:** Family Salicaceae, and Fagaceae.  **Week22:** Family Moraceae, and Urticaceae  **Week23:** Family Polygonaceae, and Chenopodiaceae **Week24:** Family Amaranthaceous, and Nyctaginaceae. **Week25:** Family Portulacaceae, and Caryophyllaceae. **Week26:** Family Nymphaceae, and Ranunculaceae.  **Week27:** Family Dipsacaceae, and Crassulaceae.  **Week28:** Family Saxifragaceae, and Valerianaceae |  |
| **19. Examinations:**(Compositional) Q1/  A- What is the plant name? Rosa  B- Why the plant considers as perennial? Lives more than two years  C- How is the plant symmetry? Actinomorphic D- Mention the plant family? Rosaceae | |
| **20. Extra notes:** | |
| **21. Peer review** | |