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**Department of Biology**

**College of Science**

**University of Salahaddin**

**Subject: Medical mycology**

**Course Book – for 3rd Class-Biomedical**

**Academic Year: 2023/2024**

**Course Book**

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| **1. Course name** | **Practical Medical Mycology** | |
| **2. Lecturer in charge** | **Nareen Qadr Faqi Abdullah** | |
| **3. Department/ College** | **Biology/Science** | |
| **4. Contact** | **e-mail: nareen.faqi@su.edu.krd** | |
| **5. Time (in hours) per week** | **Practical: 2 hours (3 groups)= 6 hours** | |
| **6. Office hours** | **Availability of the lecturer to the student during the week** | |
| **7. Course code** |  | |
| **8. Teacher's academic profile** | * **I graduate from Salahaddin University in 2003 (Ranked 8th in Department) worked as assistant biology for four years and assist in practical mycology lab., practical plant disease lab , practical General plant lab., practical ecoloy lab. and practical pollution lab.. In 2010 I finished my MSc degree and start as Assistant Lecturer Teaching Practical mycology, Practical microbial physiology, Practical ecology, Practical pollution, and Practical general plant** * **For 5 years (Between 2011-2014) I worked as a Member of the safety ………for College of Science.** * **In 2013 I got my lecturer degree** * **In 2018 I got my Assist. Prof. degree** | |
| **9. Keywords** | **Microorganisms, Structure, Factors affecting microbial growth and Infection** | |
| **10. Course overview:**   * ***The importance of studying the subject***   The course will cover fungal groups of mycolgy topics together with printed media and internet articles which deal with current fungal life cycle issues. Instructional stratigies attemp to strike a balance between developing the students ability to cope with fungal identification, extending their general academic reading skills, and increasing their basic knowledge of and understanding of mycology. The course will give students a better understanding of a number of fungal characteristics topics, the followings are examples but not restricted to: growth, Reproduction, Life cycles, Forms of fungi, Morphological appearace, Isolation and Identification of fungi   * ***Understanding of the fundamental concepts of the course***   Today fungal science is a fusion of the traditional components with the modern aspects of biochemistry, molecular biology and biotechnology. Over the years, Fungi has shown enormous gain in information and applications owing to tremendous inputs from research in all its aspects. With global recognition of the need for conservation, field fungal biologists have contributed significantly in assessing fungal diversity. Taxonomists have explored newer dimensions for the classification of fungi. New insights have been gained in functional and structural aspects of plant development by utilizing novel tools and techniques for fungal research. Challenging areas of teaching and research have emerged in ecology and reproductive biology.  These courses shall provide the biology students hands on experience and professional inputs. On the whole, the curriculum is a source of lot of information and is supported by rich resource materials. It is hoped that a student graduating in biology with the new curriculum will be a complete mycology at Honours level.   * ***Principles and theories of the course***   The principles and theories of the subject are the teaching of General characteristics; Ecology and distribution; range of hyphal organization and reproduction; Cell structure and components; cell wall, pigment system, reserve food (of all groups represented in the syllabus), methods of reproduction and Classification   * ***Major areas of the subject***   Fungi are suitable for upper-level undergraduate and graduate students following courses in general biology and microbiology.  Emphasis is placed on those fungi that are commonly covered in mycology courses, and encountered by students in soil, air and water habitats. | | |
| **11. Course objective:**  The course will cover mold and yeast groups of fungal pathogenes topics. To comprehend what diseases that the medically important fungal organisms cause and the details of the infection process. Lecture material supplemented with slides (mycology and pathology of the diseases. Student can synthesize the material presented concerning the pathogenic mechanisms associated with each of the pathogens. They can define the different fungal infections including the ones caused by opportunistic fungi, superficial, cutaneous, subcutaneous and systemic fungi. Student can classify the medically important fungal organisms on the basis of reproduction, taxonomy, macroscopic and microscopic morphology and mycoses. They can define the various laboratory diagnostic techniques and they can define how antifungal agents can be used in treatment | | |
| **12. Student's obligation**  \***Exam policy:** Student should get at 2 exams during the course. There will be no make-up exams for absence 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. Students are responsible for obtaining any information they miss due to absence.  2- **Lateness:** Lateness to class is disruptive  3- **Electronic devices:** Allcell 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 other students and the professor, and not Disrespectful to both the professor and to other students. | | |
| **13. Forms of teaching**  Using of Course Book and PowerPoint | | |
| **14. Assessment scheme**   |  |  |  | | --- | --- | --- | | Component | Date | Percent | | Exam1 | --/--/2023 | 35 % | | | |
| **15. Student learning outcome:**  After completion of this year, student will be able to:   * Define common terms used in mycology and the characteristics of pathogenic fungi * Identify all the kinds of pathogenic fungi * Different structure and shape of mould and yeast * Identify mould and yeast as they relate to patient * Compare different mould and yeast replication strategies * Relation of mould and yeast to different disease   Importance of antifungal against pathogenic fungi | | |
| **16. Course Reading List and References‌:**  ▪ Key references:  Al-Doory, Y. (1980).Laboratory Medical Mycology. Lea and Febiger. Philadelphia. Printed in the United States of America. 401pp.  Calderone, R.A. and Cihlar, R.L. (2002).Fungal pathogenesis principles and clinical application. Marcel Dekker, Inc. 762pp.  Howard, D. H. (2002). Pathogenic Fungi in Humans and Animals. 2nd Edition, Marcel Dekker, Inc.790pp.  Benson, H. J. (2002).Microbiological Applications, Laboratory Manual in general microbiology .8*th*ed.McGraw Hill. 477pp. | | |
| **17. The Topics:** | | **Lecturer's name** |
| **In this section the lecturer shall write titles of all topics he/she is going to give during the term. This also includes a brief description of the objectives of each topic, date and time of the lecture**  **Course programme**  **Week 1: Isolation of Fungi**  **Week 2: Identification of Fungi**  **Week 3: Fungal Reproduction**  **Week 4: Classification of Fungi**  **Week 5: Preservation and maintenance of fungal culture**  **Week 6: Classification of Fungi**  **Week 7: Fungal infection: mycoses**  **Week 8:** [**Subcutaneous Mycoses**](https://www.sciencedirect.com/science/article/pii/B9780323296342000183)  **Week 9: Systemic mycoses**  **Week 10: Opportunistic Fungi**  **Week 11: Candidiasis**  **Week 12: Antifungal Drugs** | | Lecturer's name  ex: (2 hrs) |
| **18. Practical Topics (If there is any)** | |  |
| In this section The lecturer shall write titles of all practical topics he/she is going to give during the term. This also includes a brief description of the objectives of each topic, date and time of the lecture | | Lecturer's name  ex: (2 hrs) |
| **19. Examinations:**  ***1. Compositional:*** In this type of exam the questions usually starts with Explain how, What are the reasons for…?, Why…?, How….?  With their typical answers  Examples should be provided  ***2.******True or false type of exams:***In this type of exam a short sentence about a specific subject will be provided, and then students will comment on the trueness or falseness of this particular sentence. Examples should be provided  ***3. Multiple choices:***In this type of exam there will be a number of phrases next or below a statement, students will match the correct phrase. Examples should be provided. | | |
| **20. Extra notes:**  Here the lecturer shall write any note or comment that is not covered in this template and he/she wishes to enrich the course book with his/her valuable remarks. | | |
| **21. Peer review پێداچوونه‌وه‌ی هاوه‌ڵ**  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).* | | |