

Republic of Yemen
Ministry of Higher Education & Scientific Research
21 SEPTEMBER UNIVERSITY of MEDICALS & APPLIED
SCIENCES



Faculty of Laboratory medicine..

Department of MICROBIOLOGY & IMMUNOLOGY

Course Specification of Advanced Medical Mycology

Course No. (03.12. 316)

2022/2023

| Prepared by: | Reviewed by: | Head of the Department: | Vice Dean for Quality affairs | Dean of College: |
|--------------------------------|---|--------------------------------|--------------------------------|-----------------------------------|
| Dr Gamil Taher Abdul Mughni | - Assistant Prof. Dr Ghamdan Al-Tahish | Dr Gamil Taher Abdul Mughni | Dr Gamil Taher Abdul Mughni | Ass.Pr. Dr. Ebtessam Al-Zabedi |

| I. Course Identification and General Information: | | | | |
|---|--|--|----------|-----------|
| 1 | Course Title: | Advanced Medical Mycology | | |
| 2 | Course Code & Number: | 03.12. 316 | | |
| 3 | Credit Hours: | Theory Hours | | |
| | | Lecture | Exercise | Practical |
| | | 2 | 0 | |
| 4 | Study Level/ Semester at which this Course is offered: | 1st Level / 1st Semester | | |
| 5 | Pre –Requisite (if any): | None | | |
| 6 | Co –Requisite (if any): | None | | |
| 7 | Program (s) in which the Course is Offered: | Master degree in Medical Microbiology & Immunology | | |
| 8 | Language of Teaching the Course: | English | | |
| 9 | Study System: | Semester | | |
| 10 | Mode of Delivery: | Regula r | | |
| 11 | Location of Teaching the Course: | University Campus | | |
| 12 | Prepared by: | Dr.Gamil Taher Abdul-Mughni | | |
| 13 | Date of Approval: | 2022-2023 | | |

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II. Course Description:

Advanced Medical Mycology is provides an in-depth understanding of fungal infections in humans. The course covers a wide range of topics, including: The popetase taxonomy, morphology, and physiology of fungi, epidemiology and pathogenesis of fungal infections, the diagnosis and treatment of fungal infections and the prevention of fungal infections

III. Alignment Course Intended Learning Outcomes with program outcomes

| III. Course Intended Learning Outcomes (CILOs) | | Referenced PILOs |
|--|---|------------------|
| A. Knowledge and Understanding: Upon successful completion of the course, students will be able to: | | |
| a1 | Describe the important mechanisms of fungi pathogenesis, modes of transmission, eliminated, treatment and treatment and pevantion and the ole of immune esponse | A4, A 1, A 2 |
| B. Intellectual Skills: Upon successful completion of the course, students will be able to: | | |
| b1 | Explain the pathogenesis of fungal infections | B4,B3,B2 |
| C. Professional and Practical Skills: Upon successful completion of the course, students will be able to: | | |
| D. Transferable Skills: Upon successful completion of the course, students will be able to: | | |
| d1 | Communicate effectively about mycology to a variety of audiences | D1,D3 |

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IV. Alignment Course Intended Learning Outcomes with Teaching Strategies and Assessment methods :

(A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:

| | Course Intended Learning Outcomes | Teaching strategies | Assessment Strategies |
|----|--|---------------------|-----------------------|
| a1 | Describe the important mechanisms of fungi pathogenesis, modes of transmission, eliminated, treatment and treatment and pevantion and the ole of immune esponse. | Lectures | Exam |

(B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:

| | Course Intended Learning Outcomes | Teaching strategies | Assessment Strategies |
|----|---|---------------------|-----------------------|
| b1 | Explain the pathogenesis of fungal infections | Lectures | Exam |

C Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:

| | Course Intended Learning Outcomes | Teaching strategies | Assessment Strategies |
|--|-----------------------------------|---------------------|-----------------------|
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(D) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:

| | Course Intended Learning Outcomes | Teaching strategies | Assessment Strategies |
|----|---|---------------------|-----------------------|
| d1 | Communicate effectively about mycology to a variety of audiences | Lectures | Exam |

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| V. Course Content: | | | | | |
|-------------------------|--|---|-----------------|---------------|---------------------------|
| A – Theoretical Aspect: | | | | | |
| NO. | Units/Topics List | Sub Topics List | Number of Weeks | contact hours | Learning Outcomes (CILOs) |
| 1 | General Introduction to Medical Mycology & Course Instruction. | Definitions and Fungal terminology - Fungal in the economy -Importance of medical mycology Immunology of the Mycoses | 1 | 2 | a1,b1, d1 |
| 2 | -Fungal Importance and its - | Definitions and Fungal terminology | 1 | 2 | a1,b1, d1 |
| 3 | -Fungal Classification and Taxonomy | Definitions Geographic Epidemiologic, Morphological, Taxonomical classification Medical classification | 1 | 2 | a1,b1, d1 |
| 4 | Fungal Pathogenesis | -Pathogenesis of Fungal Disease -Primary Fungal Pathogens -Opportunistic Pathogens | 1 | 2 | a1,b1, d1 |
| 5 | General Aspects of Fungal Immunology | Innate Immunity/Nonspecific Immunity Factors that Affect Host-Fungus Interactions Relationship of Natural Immunity to Outcome of Mycoses Importance of CMI (TH1 Immune Responses) | 1 | 2 | a1,b1, d1 |
| | Lab Diagnosis of Fungal infection | Diagnosis of fungal Disease : Safety Precautions -specimen Collection -transportation and processing of mycological specimen Direct Techniques and Isolation Techniques Diagnosis of fungal Disease : Rapid Diagnosis and | 1 | 2 | a1,b1, d1 |

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| | | Investigational Immunoassays Final Exam : Date , Time and Location to be Announced | | | |
|----|--|---|---|---|-----------|
| | Antifungal Drugs: Overview : -Polyenes: Amphotericin B , Nystatin, and others Azoles: Fluconazole, Itraconazole, Posaconazole, Voriconazole, Ketoconazole, Ravuconazole and others. -Fluorocytosine, Echinocandins (Caspofungin, Micafungin, Anidulafungin) and other antifungal agents | Define Mechanism Popetase Used saide effect | 1 | 2 | a1,b1, d1 |
| 7 | Med term | | 1 | 2 | a1,b1, d1 |
| 8 | Superficial mycoses: A-Tinea (Pityriasis) Versicolor; B-Tinea nigra; C-Piedra | Definition Disease Etiolog Popetase Distibution Diagnosis Treatment and pevantion | 1 | 2 | a1,b1, d1 |
| 9 | Cutaneous mycoses: Dermatophyte (Dermatomycosis) Cutaneous mycoses: 1. Tinea capitis 2. Tinea pedis 3. Tinea corporis 4. Tinea cruris 5. Tinea barbae 6. Tinea unguium 7. Tinea favosa Microsporium spp., Trichophyton spp., and Epidermophyton floccosum | Definition Disease causes, symptoms, diagnosis and treatment: | 2 | 2 | a1,b1, d1 |
| 10 | Subcutaneous Mycoses: a- Eumycotic, Actinomycotic b-Chromomycosis. | Definition Disease causes, symptoms, diagnosis and treatment: | 2 | 4 | a1,b1, d1 |

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|----|---|--|----|----|-----------|
| | c- Spototrichosis. d. Phaeohyphomycosis | | | | |
| 11 | Systemic Mycoses: A – Zygomycosis. B – Histoplasmosis. C – Blastomycosis. D – Cryptococcosis. E – Aspergillosis. F – Paracoccidioidomycosis. G – Coccidioidomycosis. | Definition Disease causes, symptoms, diagnosis and treatment: | 2 | 4 | a1,b1, d1 |
| 12 | Opportunistic Mycoses: -Aspergillosis Zygomycosis Candidiasis Cryptococcosis. | Definition Disease Causes Symptoms diagnosis and treatment | 2 | 4 | a1,b1, d1 |
| 13 | FINAL THEORTICAL | | 16 | 32 | |

V. Teaching Strategies of the Course:

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|----|----------------|
| 1- | Lectures |
| 3- | Self leaning |
| 4- | Group research |

VI. Assessment Methods of the Course:

| No | Assignment | |
|----|--|--------------|
| 1 | Written Exams (Short Essays) and Quizzes | a1,b1 ,d1 |
| 2 | Written Exams(MCQ) | a1,b1, d1 |
| 3 | Structured Oral Exams | a1,b1 ,c2,d1 |

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| 4 | Objective Structured Practical Exams (OSPE) | a1,b1,c1,c2,d1 |
| 5 | Student presentation | a1,b1,c1,c2,d1 |

| VII. Assignments: | | | | | |
|-------------------|--------------|-------------------------|------|--------------------------------|-------------------------|
| No. | Assignments | Week Due | Mark | Proportion of Final Assessment | Aligned CILOs (symbols) |
| 1 | Midterm Exam | 7 | 25 | 25% | a1,b1 ,d1 |
| 2 | Activity | Throughout the semester | 5 | 5% | a1,b1,d1 |
| 5 | Final Exam | 14 | 70 | 70% | a1,b1 ,d1 |
| Total | | | | | |

| Learning Resources: | |
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| <ul style="list-style-type: none"> Written in the following order: (Author - Year of publication – Title – Edition – Place of publication – Publisher). | |
| 1- Required Textbook(s) (maximum two). | |
| 1- Medical Mycology by Anaissie et al. | |
| 2- Textbook of Medical Mycology, Jagdish Chander, 2017 | |
| 2- Essential References. | |
| Fundamental Medical Mycology : Errol Reiss, 2011 | |
| 3- Electronic Materials and Web Sites etc. | |
| 1- https://www.ncbi.nlm.nih.gov | |
| 2- | |

| XI. Course Policies: | |
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| 1 | Class Attendance: Class Attendance is mandatory. A student is considered absent and shall be banned from taking the final exam if his/her absence exceeds 25% of total classes. |

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| 2 | Tardiness: -If the student dose not attend for more than 6 times, the student will be obligated to withdrew from the course |
| 3 | Exam Attendance/Punctuality: No student shall be allowed to the exam hall after 30 minutes of the start time, and shall not leave the hall before half of the exam time has passed. |
| 4 | Assignments & Projects: Assignments and projects must be submitted on time. Students who delay their assignments or projects shall lose the mark allocated for the same. |
| 5 | Cheating: Cheating is an act of fraud that results in the cancelation of the student's exam or assignment. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply. |
| 6 | Forgery and Impersonation: Forgery/Impersonation is an act of fraud that results in the cancelation of the student's exam, assignment or project. If it takes place in a final exam, the penalties stipulated for in the Uniform Students' Bylaw (2007) shall apply. |
| 7 | Other policies: The University official regulations in force will be strictly observed and students shall comply with all rules and regulations of the examination set by the Department, Faculty and University Administration |

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