**Department :** **Clinical Laboratory Sciences**

**Course Number : CLS 312**

**Course Title : Clinical Mycology**

**Credit Hours : 2 + 1 = 3**

**Course Description:**

In this course the students will learn about the fungi ( molds and yeasts ) of medical importance and the diseases they cause. The classification, structure physiology, and cultural characteristics of fungi will be discussed. Emphasis in this course will be on the fungal diseases and their clinical presentation, pathogenesis, modes of transmission, laboratory diagnosis, prevention and control.

**CLS 312: Lectures Outline**

**Weeks Subjects**

1. Introduction to Mycology.

Structure and morphology of fungi

2. Fungal classification and taxonomy

3. Superficial mycosis:

Definition, symptoms, epidemiology, etiology, laboratory diagnosis and treatment

4. Dermatophytosis :

Definition, symptoms, epidemiology, etiology, laboratory diagnosis and treatment

5. Mycetoma:

Definition, symptoms, epidemiology, etiology, laboratory diagnosis and treatment

6. Chromoblastomycosis, Phaeohyphomycosis,

 Sporotrichosis:

Definition, symptoms, epidemiology, etiology, laboratory diagnosis and treatment

7. Zygomycosis:

Definition, symptoms, epidemiology, etiology, laboratory diagnosis and treatment

8. Lobomycosis, Rhinosporidiosis:

Definition, symptoms, epidemiology, etiology, laboratory diagnosis and treatment

9. Aspergillosis:

Definition, symptoms, epidemiology, etiology, laboratory diagnosis and treatment

10. Candidiasis:

Definition, symptoms, epidemiology, etiology, laboratory diagnosis and treatment

11. Cryptococcosis:

Definition, symptoms, epidemiology, etiology, laboratory diagnosis and treatment

12. Trichosporonosis, Geotrichosis Pneumocystosis:

Definition, symptoms, epidemiology, etiology, laboratory diagnosis and treatment

13. Primary Systemic Fungal Infection: Blastomycosis, Histoplasmosis -

Definition, symptoms, epidemiology, etiology, laboratory diagnosis and treatment

14. Primary Systemic Fungal Infection Coccidioidomycosis, and paracoccidioidomycosis -

Definition, symptoms, epidemiology, etiology, laboratory diagnosis and treatment

**CLS 312: Laboratory Schedule**

**Weeks Subjects**

1. Introduction to Mycology / Safety rules

 Micrometry

2. Preparation of culture media and mountants commonly

 used in Mycology

3. Saprophytic fungi: Examination of cultural morphology

 LPCB prepared slides

4. Techniques of Slide culture, LPCB – Teased mount,

 and Double stick scotch Tape. Subculturing technique

 of Molds from exposed and inoculated plates

5. Slide culture / subculture continued… Identification of

 fungi

 Superficial mycosis: Pityriasis versicolor, Tinea nigra,

 black and white piedra.

6. Dermatophytosis: Microscopic examination of skin, hair

 and nail. Microscopic examination of LPCB prepared

 slides of the dermatophytes ( Trichophyton,

 Microsporum, and Epidermophyton)

7. Subcutaneous mycosis: Examination of culture and

 microscopic morphology of the fungi involved in s

 subcutaneous mycosis. Microscopic examination of

 Mycetoma grains and etiologies

8. Systemic mycosis: Examination of prepared slides

9. Candidiasis: Culturing and identifying yeasts

10. Yeasts identification continued …

 Specimens collection, transport and processing in

 Mycology

11. Serological diagnosis of fungal infections: Latex

 agglutination, Immuno Diffusion, and Counter

 Immunoelectrophoresis

12. **Revision**

13. **Final Practical Examination**

**Assessments:**

Mid Term Examination: 15

Continuous evaluation 5

Laboratory Notebook: 10

Final Practical Examination: 30

Final Theoretical Examination: 40

**References:**

1. Al Hedaithy, Saleh S.A., **Medical Mycology Lecture Slides**, Medical Book House – Riyadh 2006
2. Kwon – Chung et al., **Medical Mycology**, Lea & Fabiger - Philadelphia 1992
3. Larone D., **Medically Important Fungi, A Guide to Identification**, American Society for Microbiology – Washington DC 2002