**SCHOOL OF PHARMACY AND HEALTH SCIENCES**

SEMESTER:

**2.12.1** COURSE: **PHM 3486: CLINICAL MANAGEMENT OF FUNGAL, PARASITIC AND PROTOZOAL DISEASES**

LECTURER :
*CLASS DAYS/TIME:*
*CLASS VENUE:*
*CREDIT UNIT: 4.5*
*OFFICE HOURS:*
*CONTACTS:*

## 1. DESCRIPTION

***1.1 Prerequisite:*** *PHM 3485*

1.2 This course gives the students an understanding of the functions of clinical pharmacy and the hospital and community pharmacy practice in management of Fungal, Parasitic and Protozoal diseases.

### 2. Link to University Mission and Program Learning Outcomes:

The course is linked to the following University Mission Outcomes:

*LINK TO UNIVERSITY MISSION AND PROGRAM LEARNING OUTCOMES:*

1. **High order thinking:** The ability to collect, analyze and evaluate information and formulate conclusions. Students develop and demonstrate the ability to think critically, analytically and creatively.
2. **Literacy:** Competence in oral, written, quantitative, and technological skills. Students develop and demonstrate competency in oral and written communication as well as demonstrate scientific, quantitative and technological literacy.
3. **Global understanding and multicultural perspective:** Awareness, knowledge and appreciation of both the diversity and commodity of cultures. Students acquire these perspectives through formal study of languages, history, literature and the arts and through working, studying and living cooperatively in a radically, ethnically, and culturally diverse environment. Further, students acquire an understanding of economic, historical, political, geographic and environmental relationships on a global basis.

4. **Preparedness for career:** Mastery of a field of knowledge and its multi-cultural and multinational application. Such mastery is accomplished through both formal study and various experienced forms of learning such as internships and field experiences.
5. **Community service and development***:* A sense of being part of a community and a desire to be of service to it. Students are given opportunities to participate in community service, citizenship, or social action projects or activities.
6. **Leadership and ethics***:* As part of their growth and development, students formulate and articulate the ethical standards which will guide their professional and personal lives.

**3.0 PROGRAM LEARNING OUTCOMES**

By the end of their training the graduates should be able to:

1. Plan, organize and control the manufacturing, compounding, packaging and quality of pharmaceutical products.
2. Plan, organize and manage the procurement, storage and distribution of pharmaceutical materials and products.
3. Interpret and uphold the laws, regulations and ethics that govern the practice of pharmacy.
4. Provide pharmacist-initiated care to patients and ensure the rational use of medicines.
5. Provide information, advice and education on disease, health, community health and medicines-related issues.
6. Participate in pharmaceutical and medical research and evaluate critically new therapies and current advances in formulation and modes of drug action to ensure the optimal selection and use of medicines.

**4.0 COURSE LEARNING OUTCOMES**

At the end of the course, the student should be able to:

- State the roles of clinical pharmacy in management of Fungal, Parasitic and Protozoal diseases
- Identify and diagnose common microbial diseases
- Formulate a pharmaceutical care plan for management of Fungal, Parasitic and Protozoal diseases
- Identify the components of rational prescribing for Fungal, Parasitic and Protozoal diseases
- Manage poisoned patients
- Describe rational use of anti-fungal, anti-parasitic and anti-protozoal drugs in paediatrics and geriatrics

## 5.0 COURSE CONTENT

Principles of anti-fungal, anti-parasitic and anti-protozoal chemotherapy. Anti-fungal, anti-parasitic and anti-protozoal drugs. **Fungal infections:** actinomycosis, Dermatophytosis, superficial candidosis, malassesia yeast infections, otomycosis, chromoblastomycosis, sporotrichosis, lobomycosis, histoplasmosis, blastomycosis, coccidiomycosis, systemic candidosis, aspergilosis, murcomycsis, cryptococcosis, oculomycosis. **Parasitic diseases:** Helminthic infestations: Nematodes, cestodes, trematodes, pediculosis, scabies. **Protozoan infections:** Malaria, trypanosomiasis, loaiasis, leishmaniasis, amoebiasis, giardiasis, toxoplasmosis, trichomoniasis, balantidiasis, babesiosis.

**Practicals.** Identification and diagnosis of common microbial diseases: Laboratory tests and clinical diagnosis. Pharmaceutical care of patients with infectious diseases.

These will be broken down for weekly delivery as below:

| **WEEK NO** | **TOPICS** |
|---|---|
| Week 1 | actinomycosis, Dermatophytosis, superficial candidosis, malassesia yeast infections |
| Week 2 | otomycosis, chromoblastomycosis, |
| Week 3 | sporotrichosis, lobomycosis, histoplasmosis |
| Week 4 | blastomycosis, coccidiomycosis, systemic candidosis; |
| Week5 | Systemic candidosis, aspergilosis, murcomycsis, oculomycosis. |
| Week 6 | Malaria, trypanosomiasis |
| **Week 7** | **Mid semester examination** |
| Week8 | loaiasis, leishmaniasis |
| Week 9 | amoebiasis, giardiasis, toxoplasmosis |
| Week 10 | trichomoniasis, balantidiasis, babesiosis |
| Week 11 | Intestinal and tissue nematodes |
| Week 12 | trematodes |
| Week 13 | Cestodes, pediculosis, scabies |
| **14. End of semester examination** | |

### 6.0 Mode of Delivery;

**Lectures, power point presentations, and class discussions.** These will take a participatory approach. **Laboratory learning and Experiments:** The lecturer, together with the Clinical Ward staff, will take the students through practical ward sessions, beginning with **demonstrations**, then **bedside note taking**, **patient notes and files review**, **advisories**. The students will thereafter be expected to use pre formulated ward manuals to carry out various practical exercises then write out their findings in their workbooks. **Video demonstrations and/or CD-Roms** on Clinical Pharmacy when available, after the relevant topic has been covered. **Assignment criteria:** Students will be given several individual or group research assignments on topics relevant to the course. These could include lectures, discovery learning, problem-based learning, experimental learning, group-based learning, independent studies and e-learning.

### 7.0 Instructional Materials and/or Equipment;

Lecture notes or power points for presentation; Tutorials; Video demonstrations; CD-Roms; Microscopes; Text books; Ward Manuals, Diagnostic Set; biochemical charts; anatomical and physiological atlases.

### 8.0 Course Assessment;

### 8.1 Distribution of Marks

| | | |
|---|---|---|
| Attendance & Participation | 10% | |
| Continuous Assessment Tests /Quizzes | | 10% |
| Ward and Practical exercises | | 20% |
| Practical Exams | | 10% |
| Oral examination | 05% | |
| Mid-Quarter Exam | | 20% |
| Final Exam | | 25% |
| | | |
| Total | | **100%** |

### 8.2 Grading

| | |
|---|---|
| 90 – 100 | A |
| 87 - 89 | $A^-$ |
| 84 - 86 | $B^+$ |
| 80 - 83 | B |
| 77 - 79 | $B^-$ |
| 74 - 76 | $C^+$ |
| 70 - 73 | C |
| 67 - 69 | $C^-$ |
| 64 - 66 | D+ |
| 62 - 63 | D |
| 60 - 61 | D- |
| 00 - 59 | F |

### 8.3 Core Reading Materials for the Course

Walker, R. & Cate Whittlesea, C. eds. (2011). Clinical Pharmacy and Therapeutics, 5th Edition. Churchill Livingstone, Oxford, UK

Wiffen, P., Mitchell, M., Snelling, M., Stoner, N. (2012). Oxford Handbook of Clinical Pharmacy. 2nd Edition. Oxford University Press, USA

**Recommended Reference Materials;**

Alldredge, B. K., Corelli, R. L., Ernst, Guglielmo Jr., B. J., Jacobson, P. A., Kradjan, W. A., Williams, B. R. (2012). Koda-Kimble and Young's Applied Therapeutics: The Clinical Use of Drugs. North American 10th Edition. Lippincott Williams & Wilkins, Hagerstown, MD

Dodds, L. J. (2013). Drugs in Use: Clinical Case Studies for Pharmacists and Prescribers. 5th Edition. Pharmaceutical Press, London, UK.

Hubbard, J. (2009). A Concise Review of Clinical Laboratory Science. 2nd Edition. Lippincott Williams & Wilkins, Hagerstown, MD

McPhee, S. J., Hammer, G. D. (2009). Pathophysiology of Disease: An Introduction to Clinical Medicine. 6th Edition. McGraw-Hill Medical, New York, USA