LEARNING UNIT : \_\_\_\_V\_\_\_\_ Course Coordinator : \_\_\_\_\_\_Dr. Eduardo Ayuste, Jr.

COURSE CODE : \_OS 217\_\_\_\_\_\_\_ Module Coordinators/s: \_\_\_\_\_\_Dr. Jodor A. Lim

COURSE TITLE : \_Systemic Diseases\_\_

COURSE DESCRIPTION:

The module on systemic diseases is an integrated course, covers common and locally relevant infections, malignancies, and traumatic conditions. The course places emphasis on the recognition and management of these conditions among the well, at-risk and sick population of various ages. The course initially introduces the basic principles of pathophysiology and epidemiology of the disease condition then translates these principles in the diagnosis, clinical management, and prevention. The management is aimed to assess and care for the patient in a holistic, multi-disciplinary approach that is humane, most appropriate and evidence-based ethical as well as cost-effective.

This is a 4-week course, subdivided into – (a) Adult and pediatric infectious diseases, parasitology and microbiology for two weeks; (b) oncology for one week; and (c) trauma for three days.

Learning activities were varied and dynamic. In the classroom setting, there were be straightforward lectures, plenary sessions, break-out sessions and/or small group discussions, classroom exercises as well as grand rounds with the students as main presenters. For clinical correlation and application, students were exposed to the clinics through COME-based activities, ward work and preceptorials.

Module/System : Adult Infectious Diseases

Module Description : Pathophysiology, symptoms, diagnosis, presentation, and principles of treatment of common and locally relevant infections.

LO ADDRESSED:

L1 Clinical Competence

L2 Effective Communication Skills

L3 Generation and Utilization of Relevant Knowledge

L4 Inter-professional practice

L5 Leadership

L6 Effective Teaching and Organizational Skills

L7 Advocacy for Social Equity and Social Accountability

L8 System-based Approach to Health Care Practice

L9 Lifelong Personal & Professional Development

L10 Adherence to Professional and Ethical Standards

INSTRUCTIONAL DESIGN

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| **Learning Objectives** | **LO Addressed** | **Content** | **Teaching/Learning Strategies** | **Resources** | **Evaluation** |
| **ANIMAL BITES AND RABIES** | | | | | |
| 1. To discuss the epidemiology of animal bites especially rabies globally and in the Philippines | **2,6** | Epidemiology of rabies | Lecture | Lecture Slides  Lecture Room  LCD projector  Laptop | Written exam |
| 1. To correlate the pathophysiology of rabies to clinical manifestation of the disease. | **1,2,3** | Virology and pathogenesis of the virus.  Clinical manifestation of rabies. |
| 1. To implement preventive measures for the control rabies in the community. | **5,7,8** | Basic immunization for anti-rabies |

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| **EMERGING INFECTIOUS DISEASES** | | | | |  |
| 1. To recognize and describe several emerging and re emerging infectious diseases of public health importance. | **1,2,5,7** | Definition, Classification, Major examples of emerging infectious diseases.  Factors that lead to the emergence of infectious diseases | Lecture | Lecture Slides  Lecture Room  LCD projector  Laptop | Written exam |
| 1. To design an alert and response plans for the prevention and control of emerging infectious diseases. | **5,6,7,8** |
| **EPIDEMIOLOGY OF INFECTIOUS DISEASES** |  |  |  |  |  |
| 1. To apply the basic concepts and principles of epidemiology as applied in infectious diseases | **1,2,3** | Definition and goals of Epidemiology, leading infectious causes of morbidity and mortality in the Philippines and globally | Lecture | Lecture slides  Lecture room  LCD projector  Laptop | Written exam |
| 1. To identify and characterize aspects in the chain of infection that contributes to agent transmission and the disease development. | **1,2,3** | Discuss host, agent, environmental factors that influence exposure,  development of infection and disease  Discuss and provide examples of direct and indirect modes of transmission. |
| 1. To correlate the pathogenesis of diseases to patterns of infection and disease occurrence | **1,2,3** | Discuss concepts of incidence, prevalence, epidemics, pandemics and endemicity. |
| 1. To practice primary, secondary, and tertiary prevention and control of infectious disease | **4,5,6,7,8,9** | Discuss primary, secondary, tertiary levels of prevention. |
| 1. To describe and assess the use of preventive measures on a community-wide basis in a systematic approach | **4,5,6,7,8** |
| **EXTRAPULMONARY TUBERCULOSIS** |  |  |  |  |  |
| 1. To discuss the prevalence and burden of tuberculosis in the country. | **1,2,3** | Epidemiology of tuberculosis in the Philippines  Clinical Manifestation of extrapulmonary tuberculosis  Different diagnostics of tuberculosis: imaging, culture, histopathology  Duration and treatment of extrapulmonary tuberculosis | Interactive lecture | LCD projector  Interactive key pads  laptop | Written exam |
| 1. To describe various clinical manifestations of extra tuberculosis and identify appropriate laboratory examination for diagnosis and treatment options | **1,2,3** |
| 1. To develop public health awareness campaign on the control and prevention of TB in collaboration with the public health authorities and the community | **4,5,6,7,9** |  |  |  |
| **FEVER IN THE IMMUNOCOMPROMISED HOST** |  |  |  |  |  |
| 1. To discuss infections concerning immnocompromised hosts and identify potential risk factors and causes of infectious complications. | **1,2,3** | * Definitions Immunocompromised Host   Febrile Neutropenia   * Clinical Settings for IC patients * Host Defense Abnormalities and related common ID * Pattern of Infections  1. Bacterial – Nocardia, Mycobacteria 2. Fungal 3. Parasitic 4. Viral  * Predisposing Factors for invasive fungal infection, PCP * Toxoplasma & Cryptosporidium * Viral infections - spot diagnosis * AIDS patient – common opportunistic infections   Clinical evaluation and management of the IC patient. | Lecture  Small group discussion | LCD projector  Laptop | Written exam |
| 1. To recognize clinical clues of opportunistic infections anticipated in these populations | **1,2,3** |
| 1. To discuss appropriate, evidence- based empiric anti infective therapy and alternative management with their adverse reactions | **1,2,3,7,8** |
| **FEVER OF UNKNOWN ORIGIN** |  |  |  |  |  |
| 1. To discuss epidemiological features and approach to diagnosis of patients with FUO and categorize patients according to classification. | **1,2,3** | Definition and classification of FUO  Most common causes of FUO and their estimated frequencies  Most useful diagnostic tests to determine the etiology of FUO | Lecture  Small group discussion | Lecture slides  LCD projector  Laptop  Small Group Discussions | Written exam |
| 1. To outline the most useful diagnostic tests for determining the etiology of FUO and appropriate treatment options to each classification in a given patient | **1,2,3** |
| 1. To recognize the red flags in the management of FUO that entails subspecialty consult | 1,4,10 |
| **HIV/AIDS** |  |  |  |  |  |
| 1. To describe the specific features of the epidemiology and impact of HIV infection worldwide | **1,2,3** | Epidemiology of HIV/AIDS | Lecture  Panel discussion  Wildfire | LCD projector  Laptop  Guest speaker/ Resource Person | Written exam |
| 1. To correlate the pathophysiology of AIDS disease to course of illness and to recognize opportunistic infections associated with it | **1,2,3** | Basic biology of the etiologic agent and host response  Clinical manifestation and course of the disease |
| 1. To formulate social awareness campaign on the socioeconomic impact of the disease. | **1,5,7,9** | Burden of the illness of the disease among patients living with HIV/AIDS |
| 1. To perform evidence-based search and updates on recent development on treatment and prevention of HIV/AIDS. | **1,3,8,9** | Updates on treatment and prevention |
| **IMMUNIZATION** |  |  |  |  |  |
| 1. To discuss essential concepts on Immunization and its classifications | **1,2,3** | Classification, indications, contraindications, & adverse effects of vaccination  Adult & child immunization schedule | Lecture | LCD projector  Laptop | Written exam |
| 1. To recognize different adverse reactions, indications, & contraindications to vaccination. | **1,2,3** |
| 1. To emphasize importance of disease prevention through recommended vaccinations for Filipino children & adults | **1,5,6,7,8** |
| **LEPTOSPIROSIS** |  |  |  |  |  |
| 1. To recognize relevant clinical and epidemiologic features, laboratory findings of leptospirosis. | **1,2,3** | Discuss the epidemiology and pathogenesis of leptospirosis. Clinical manifestation of leptospirosis  Different diagnostics for leptospirosis: CBC, serology and culture and treatment options | Interactive lecture | LCD projector  Interactive key pads  laptop | Written exam |
| 1. To explain and interpret results of laboratory examinations for the diagnosis of leptospirosis | **1,2,3** |
| 1. To describe the biology of leptospires and correlate pathophysiology of the disease to clinical signs and symptoms | **1,2,3,9** | Etiologic agent biology, trace the pathogenesis of leptospirosis from the time the patient gets infected up to disease manifestation including the stages of leptospirosis |
| 1. To formulate and apply a multi-disciplinary and evidence- based approach to the management of leptospirosis | **1,2,3,4** | Treatment Options in the management of Leptospirosis |
| 1. To design and implement strategies on the prevention and control of leptospirosis in household and communities | **5,6,7,8,** | Prevention and control of leptospirosis: effective vector control, avoidance of flooded water, prophylaxis |
| **TYPHOID FEVER** |  |  |  |  |  |
| 1. To formulate and implement a multi-disciplinary and evidence-based approach in the diagnosis, treatment as well as prevention of typhoid fever | **1,2,4,8** | Discuss the epidemiology and pathogenesis of typhoid fever. Clinical manifestation of typhoid fever Different diagnostics for typhoid fever: CBC, serology and culture  Treatment options for patients with typhoid fever and for patients with complications | Interactive lecture | Lecture slides  Lecture Room  LCD projector  Interactive key pads  laptop | Written exam |
| 1. To explain and interpret results of common laboratory tests related to common infectious and neglected tropical diseases | **1** |
| 1. To design and employ a campaign on the prevention typhoid fever especially in high risk populations. | **5,6,7,8** | Prevention of typhoid fever: vaccine, avoidance of food contamination, proper food handling |

Module/System : Parasitology

Module Description : Malaria and Filaria

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| **Learning Objective** | **Learning Outcome Addressed** | **Content** | **Teaching-Learning Strategies** | **Resources Required** | **Method of Assessment** |
| To understand the biology and pathophysiology of systemic parasitologic diseases | 1,2 | Biology of filariasis and malaria  Pathophysioogy of filariasis and malaria  Biology of vectors of filariasis and malaria  Signs and symptoms of filariasis and malaria | Lecture  Laboratory session | Lecture:  Audiovisual equipment  Lecture slides  Lecture room  Lab:  Demonstration slides and specimens  Microscopes  Laboratory rooms  Laboratory supplies | Written exam  Laboratory exam |
| To formulate a comprehensive and logical approach to the diagnosis and treatment of systemic parasitologic diseases | 1,2,4,8,10 | Principles of diagnosis   * Microscopy * Antigen and antibody tests * Molecular-based tests | Lecture | Audiovisual equipment  Lecture slides  Lecture room | Written exam |
| To be able to explain the transmission dynamics of vector-borne systemic parasitologic infections | 1, 2,6 | Role of mosquito vectors in the transmission of filariasis and malaria | Lecture | Audiovisual equipment  Lecture slides  Lecture room | Written exam |
| To propose a plan for the preventive and control of systemic parasitologic diseases at the community and at the individual level | 1, 2,4, 8,10 | Prevention and control measures for filariasis and malaria | Lecture | Audiovisual equipment  Lecture slides  Lecture room | Written exam |

Module/System : Microbiology

Module Description : Specimen Collection and Bacteriology, Virology, Mycology

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| Learning Objectives | LO Addressed | Content | Teaching / Learning Strategies | Resources | Evaluation |
| 1. Discuss the different bacterial viral and fungal pathogens relevant to most common systemic infections as to: 2. Description of the organism 3. Pathogenesis 4. Clinical Presentation 5. Laboratory Diagnosis | 1,2,3,6 | * Characteristics of the following organisms:   A.Bacteria   * *Salmonella typhi* * *Leptospirasp*   B.Virus  -Dengue Virus  C.Fungi in SystemicMycoses  - *Histoplasmacapsulatum*  - *Coccidiodesimmitis*  - *Blastomycesdermatitidis*  - *Paracoccidioidesbrasiliensis*   1. Fungi in Opporunistic Mycoses   - *Aspergillussp*  - *Candida albicans*  - *Cryptococcus neoformans*  - *Pneumocystis carinii* | Lecture | Audiovisual resources  Lecture room  textbook | Written Exam |
| 1. Discuss commonly used laboratory methods in the diagnosis of systemic infections | 1,2,3,6 | * Principles of Diagnosis  1. Selection of specimen 2. Collection of specimen 3. Transport of specimen 4. Processing of specimen | Lecture | Audiovisual resources  Lecture  Textbook | Written Exam |