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 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.

COURSE OBJECTIVES

1. General Objectives
   1. To integrate the basic morphologic alterations and accompanying physiologic derangements to the clinical symptomatology and basis of treatment of the disease
2. Specific Objectives
   1. Infectious diseases (adult and pediatric)
      1. To gain basic knowledge on the basic principles on the epidemiology of infectious diseases
      2. To fully understand the pathophysiology of common infections seen in the adult and pediatric populations
      3. To formulate a multi-disciplinary and evidence-based approach in the diagnosis, treatment as well as prevention of these disease conditions
      4. To apply and correlate the acquired knowledge to actual patients handled and seen in the wards and/or clinical practice
   2. Microbiology
      1. To discuss the characteristics and appropriate microbiologic methods involved in the identification of the selected systemic diseases
      2. To explain and interpret the laboratory results of selected systemic diseases
   3. Parasitology
      1. To discuss the biology, clinical presentation, protective immunity, principles of treatment and prevention of malaria
      2. To discuss the biology, clinical presentation, principles of treatment and prevention of filariasis
      3. To discuss the biology, clinical presentation and treatment modalities of toxoplasma gondii
      4. To gain knowledge on the transmission dynamics of vector-borne infections as well as identify the advantages and disadvantages of different vector control methods
      5. To differentiate the clinical forms of leishmaniasis and trypanosomiasis and appreciate implications of tropical disease not endemic to the Philippines on overseas Filipino workers.
   4. Oncology
      1. To acquire the knowledge and understanding of basic principles of cancer biology and translate these in clinical practice
      2. To acquire the knowledge and understanding of cancer epidemiology and cancer prevention and correlate these in clinical practice
      3. To acquire the knowledge, attitude and skills in the management of cancer
         1. Application of clinical skills in diagnosis
         2. Implementation of a holistic evidence-based multi-disciplinary plan of management of cancer patients
      4. To acquire the knowledge, attitudes and skills in supportive care and quality of life and apply it in the management of cancer patients
   5. Trauma
      1. To formulate a logical approach to the initial assessment of a patient with traumatic injury
      2. To describe the epidemiology and pathophysiology of traumatic injuries
      3. To formulate a logical approach in the diagnosis of a patient with traumatic injury
      4. To recognize other associated injuries
      5. To design a course of management for patients with traumatic injuries
      6. To design ways to prevent traumatic injuries
      7. To recognize, manage and prevent child abuse cases

COURSE CONTENT

1. Infectious diseases
2. Microbiology
3. Parasitology
4. Oncology
5. Trauma

LEARNING ACTIVITIES

1. Lectures
2. Small group discussions
3. Case presentations: Plenary and small groups
4. Ward works
5. Self-study periods

EVALUATION OF STUDENT

Each of the 3 subspecialties (infectious diseases, oncology, trauma) will submit a grade per student, and the final grade for systemic disease module will be computed based on the breakdown as follows (respective percentages according to the number of hours involved):

* 1. Infectious diseases 50%
     1. Adult 38%
     2. Pediatric 28%
     3. Microbiology 17%
     4. Parasitology 17%
  2. Oncology 35%
  3. Trauma 15%

100%

REFERENCES

1. Required
   * Infectious diseases:
     1. Harrison’s Principles of internal medicine,
     2. Nelson’s textbook of pediatrics,
     3. Del mundo pediatric textbook,
     4. Jawetz, Melnick & adelbergs medical microbiology,
     5. Lippincott’s illustrated review, microbiology
     6. Microbiology – an introduction tortora
     7. Belizario VY, De Leon WU. Philippine textbook of medical parasitology, Manila, UP Manila
     8. Department of parasitology, laboratory Manual, Manila
2. Suggested
   * Mandell, Douglas and Bennett’s principles and practice of infectious diseases

INSTRUCTION DESIGNS PER COURSE

## Module Description

Pathophysiology, symptoms, diagnosis, presentation, and principles of treatment of common and locally relevant infections

Module Coordinator: Allan Tenorio, MD

Faculty

Section of Adult Infectious Diseases

Dr. Myrna T. Mendoza Dr. Jodor Lim

Dr. Marissa M. Alejandria Dr. Cecilia S. Montalban

Dr. Regina P. Berba Dr. Edsel Salvana

Dr. Raul V. Destura Dr. Mediadora C. Saniel

Dr. Sonia Salamat Dr. Thea Patino

Section of Pediatric Infectious Diseases

Dr. Anna Ong Lim Dr. Liza Gonzales

Dr. Cecile Maramba – Lazarte Dr. Marimel Pagcatipunan

Dr. Benjamin Sablan Dr. Salvacion R. Gatchalian

Dr. Carmina delos Reyes

Department of Microbiology

Prof. Marohren T. Altura Prof. Teresita de Guzman

Dr. Nina G. Barzaga Dr. Maria Margarita M. Lota

Dr. Alice C. Bungay Dr. Adelwisa R. Ortega

Prof. Lolit L. Cavinta Dr. Lilen C. Sarol

Department of Parasitology

Dr. Juan Solon Prof. Winifreda de Leon

Dr. Pilarita Rivera Dr. Arlene G. Bertuso

Dr. Vicente Belizario Ms. Ellen Villacorte

Dr. Lydia Leonardo Ms. Myrna S. Mystica

## Introduction

The Systemic Diseases – Infectious Diseases module is an integrated course, which covers common and locally relevant infections. 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 covers the basic principles of microbiology, 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 & evidence-based ethical as well as cost-effective.

This is a 2-week course. Learning activities will be varied and dynamic. In the classroom setting, there will 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.

## Learning Objectives

## General Objective

## To integrate the basic morphologic alterations and accompanying physiologic derangements to the clinical symptomatology and basis of treatment of the disease

1. Specific Objectives

Infectious Diseases (Adult and Pediatric)

1. To gain basic knowledge on the basic principles on the epidemiology of infectious diseases
2. To fully understand the pathophysiology of common infections seen in the adult and pediatric populations
3. To formulate an multi-disciplinary and evidence-based approach in the diagnosis, treatment as well as prevention of these disease conditions
4. To apply and correlate the acquired knowledge to actual patients handled and seen in the wards and/or clinical practice

Microbiology

1. To discuss the characteristics and appropriate microbiologic methods involved in the identification of the selected systemic diseases
2. To explain and interpret the laboratory results of selected systemic diseases

Parasitology

1. To discuss the biology, clinical presentation, protective immunity, principles of treatment and prevention of malaria
2. To discuss the biology, clinical presentation, and principles of treatment and prevention of filariasis
3. To discuss the biology, clinical presentation and treatment modalities of Toxoplasma gondii
4. To gain knowledge on the transmission dynamics of vector-borne infections as well as identify the advantages and disadvantages of different vector control methods
5. To differentiate the clinical forms of leishmaniasis and trypanosomiasis and appreciate implications of tropical disease not endemic to the Philippines on overseas Filipino workers

**ONCOLOGY**

**RELATIONSHIP TO OTHER PARTS OF THE CURRICULUM**

To know and understand the basic concepts of malignant diseases and its involvement of various systems.

To integrate knowledge of malignant disease with issues in the community particularly in early diagnosis, treatment and prevention.

**PRE-REQUISITE/RECOMMENDED PREPARATION**

Basic concepts in cell biology, molecular biology, physiology of organ systems

Master of history taking and physical examination

**OBJECTIVES:**

1. To know and understand the nature of malignant disease by elucidating on the characteristics of a cancer cell.

2. To recognize the different causes of cancer and understand the mechanisms involved in the development of cancer (Carcinogenesis)

3. To correlate clinical signs and symptoms with nature and extent of malignant disease

4. To elucidate the reasons why cancer is a public health problem in the Philippines

5. To identify the different strategies for early diagnosis and prevention of cancer

6. To describe the general approach to the diagnosis and staging of a cancer patient

7. To explain the different modalities of treatment in cancer and the principles in the use of these treatment modalities: Surgery, Radiotherapy and Chemotherapy

8. To understand the principles of palliative and terminal care in the cancer patient

**TOPIC OUTLINE AND CONTENT**

**Basic Oncology**

Normal Cell vs Cancer Cell

Pathogenesis of cancer

Somatic and germline mutations, oncogenes, tumor suppressor genes

Cell cycle and regulatory mechanisms of cell growth

Anaplasia, Angiogenesis, Apoptosis

Invasion and metastasis

Cancer Molecular biology

Carcinogenesis and environmental carcinogens

Clinical manifestations of cancer – mass effect, paraneoplastic syndrome, early signs

**Cancer epidemiology & Public Health Issues**

Cancer statistics: morbidity & mortality figures, leading sites

Cancer prevention: primary, secondary and tertiary prevention

Cancer programs: gov’t institutions, NGO, community-based programs

Multifaceted role of physician in solving the cancer problem

**Cancer Treatment**

**Cancer staging**

Principles and practice of surgical oncology

Principles and practice of radiation oncology

Principles and practice of medical oncology focus on chemotherapy

Principles and practice of pediatric oncology

Application of a multidisciplinary approach in treatment of cancer

Supportive and Terminal Care

Principles and philosophy

Role of Health Care team

Psychosocial Aspects

**LEARNING STRATEGIES:**

**A. Lecture:**

Basic topics shall be taught using didactics with a speaker in a plenary type of activity

**B. Ward Work:**

Students shall be divided into small groups (10 per group) and shall be assigned to different areas (6 groups in Surgery, 6 groups in Medicine, 2 groups in Pediatrics, and 2 groups in Radiotherapy) with one consultant acting as Facilitator.

Students shall be assigned to 1 patient per group; history and PE are done

Assessment and treatment plan are done and discussed with facilitator

**C. Plenary Case Presentation:**

One case seen in the clinics in the previous days will be presented by the students assigned to the chosen case. It will be a plenary type of activity with multidisciplinary panel of facilitators who will discuss the case.

**D. Student Grand Rounds:**

A prepared case protocol shall be given to the students. The students will choose from among themselves a panel of “experts” who will discuss the case. It will be a plenary type of activity.

**Resources Available:**

**A. Standard reference textbooks**

1. Harrisons, Textbook of Internal Medicine

2. De Vita, Cancer: Principles and practice of oncology

**B. Other publications:**

1. Cancer Facts and figures (DOH, Tumor Registry)

**C. Websites**

1. [www.LWWoncology.com](http://www.LWWoncology.com)

2. [www.nccn.com](http://www.nccn.com)

3. asco.com

4. [info@clinicaloptions.com](mailto:info@clinicaloptions.com)

5. medscape

INSTRUCTIONAL DESIGN: SYSTEMIC DISEASES – TRAUMA MODULE

Module Coordinator: Eduardo C. Ayuste, Jr. MD FPCS DMCC

**FACULTY**

**Department of Surgery**

Dr. Eric SM Talens

Dr. Daniel dela Paz, Jr.

Dr. Rafael Gerardo J. Consunji

Dr. Orlando O. Ocampo

Dr. Eduardo C. Ayuste, Jr.

Dr. Jose Luis J. Danguilan

**Department of Pathology**

Dr. Raquel R. Fortun

**Department of Neurosciences**

Dr. Annabel Chua

**Department of Orthopedics**

Dr. Joseph Lai

**Department of Pharmacology**

Dr. Crisanta Panganiban

INTRODUCTION:

The Systemic Diseases – Trauma Module us an integrated course which covers common and locally relevant topics over a broad range of traumatic injuries. The course places emphasis on the recognition and approach to management of representative conditions, focusing on epidemiology, pathophysiology and prevention.

This is a 3-day course, comprising mostly of straightforward lectures interspersed with self-study periods. There will be a plenary-type case management activity, with the students as main presenters.

OBJECTIVES:

1. To describe the epidemiology and pathophysiology of Traumatic injuries

2. To present a systematic approach in the initial assessment of the multiply injured.

3. To recognize other associated specific-organ injuries.

4. To present strategies to prevent traumatic injuries.

5. To recognize, manage and prevent cases of child abuse.

6. To discuss the principles and medico-legal aspects of poisoning and Toxicology.

TOPIC OUTLINE AND CONTENT:

TRAUMA EPIDEMIOLOGY

INITIAL ASSESSMENT OF THE MULTIPLY INJURED

PATHOPHYSIOLOGY AND DEFINITIONS OF TRAUMATIC INJURIES

METABOLIC RESPONSE TO INJURY

HEAD INJURIES

CHEST INJURIES

CERVICAL SPINE INSTABILITY

TOXICOLOGY AND MEDICOLEGAL ASPECTS OF POISONING

CHILD ABUSE

MUSKULOSKETAL INJURIES

TRAUMA PREVENTION

LEARNING STRATEGIES:

1. LECTURES – Basic topics shall be taught in a plenary-type activity. Most lectures are interactive.

2. PLENARY CASE PRESENTATION – One patient seen in the Orthopedics ward will be presented by the students. A multidisciplinary panel of facilitators from the same Department will be available to discuss the case.

EVALUATION OF STUDENTS:

The scores obtained in the Trauma module would comprise 15% of the student’s final grade, broken down as follows:

Long Exam 80%

Case presentation 20%

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(100%): final grade-weight of 15%

REFERENCES:

1. Schwartz’s Principles of Surgery

2. BASIC EMERGENCY SKILLS IN TRAUMA (BEST) MANUAL

EVALUATION OF STUDENTS

Each of the 3 subspecialties (infectious diseases, oncology, trauma) will submit a grade per student, and the final grade for systemic disease module will be computed based on the breakdown as follows (respective percentages according to the number of hours involved):

1. Infectious diseases 50%
   * 1. Adult 38%
     2. Pediatric 28%
     3. Microbiology 17%
     4. Parasitology 17%
2. Oncology 35%
3. Trauma 15%

100%