

A) Bachelor Clinical Pharmacy program course specifications:

1- **Code: MD 304**

Name of the course: Anatomy

Theoretical: 1

Practical: 1

Total: 2 H

Overall aims of the course:

To enable the clinical pharmacy students to learn and understands the description, site and relations of various body organs

2- **Code: PB 401**

Name of the course: Biochemistry -1

Credit hours

Theoretical: 2

Practical: 1

Total: 3 credit hour

Overall aims of the course:

This course offers the basic biochemistry background to clinical pharmacy students with the aim to enable them understand the structure and function of macromolecules that constitute the human body such as proteins, nucleic acids, carbohydrates, lipids, porphyrins and enzymes as well as biological oxidations, and related biochemical processes as a base for studying metabolic pathways.

3- **Code: PB 502**

Name of the course: Biochemistry-2

Credit hours

Theoretical: 2

Practical: 1

Total: 3

Overall aims of the course:

The course offers a comprehensive study of the basis of biochemistry study to clinical pharmacy students with the aim to

enable them understand the metabolic map, intermediary metabolism. The course also gives insight on metabolic integration and regulation. Accordingly, by the end of this course the student know the different biochemical reactions that occur in the human body and can to explain several phenomena related disturbances in metabolism

4- **Code:** PME 5

Name of the course: Biological Standardization

Credit hours

Theoretical: 2

Practical: 1

Total: 3 credit hours.

Overall aims of the course:

- To ensure that the clinical pharmacist knows the basic principles of drug screening and biological assays and standardization.
- To ensure that the clinical pharmacist knows the advantages and disadvantages of biological assays.

5- **Code:** MD 101

Name of the course : Biophysics

Theoretical: 1 credit hour

Practical: 1 credit hour

Total: 2

Overall aims of the course:

The course is designed to teach students principles concerning the special structure and function of the cell membrane and the essential facts necessary to understand how ligands react with cell receptors to produce the required biological response. The significance of the transduction mechanism for a response is elaborated. The course provides an in depth understanding of molecular cell details of the cell membrane properties. It also illustrates signaling manipulation as an understanding to provide new ways of creating novel drugs used in therapy. The course equally details the key concepts in the initiation and propagation of

nerve action potential and the role played by sodium channels, potassium channels and sodium/potassium pump in nerve conduction. The students will be able to understand how drugs can modulate the propagation of action potential and affect normal physiological function as for example cardiac and brain functions.

6- Code: PP 012

Name of the course: Treatment of cardiovascular Diseases

Credit hours

Theoretical: 2 Practical: 1 Total credit hours: 3

Overall aims of the course:

The course aims to develop and enrich the clinical pharmacy student's knowledge in areas of cardiovascular diseases, allowing the clinical pharmacist to interact effectively as a member of medical care team. This course enables the student to understand the basics of cardiology including Diseases comprising the cardiovascular system, symptoms, prognosis drugs, selection, patients advice with hospital setting practice.

7- Code: MD 102

Name of the course: Cell Biology

Credit hours

Theoretical: 1 Practical: 1 Total: 2 credit hours.

Overall aims of the course:

- To ensure that the clinical pharmacist must know different cell components and their function.
- To ensure that the clinical pharmacist has the basic knowledge concerning cancer, AIDS and organ transplantation and their relation with apoptosis.

8- Code: PP 909

Name of the course: Clinical nutrition

Theoretical: 1 Practical: 1 Total: 2 credit hours

Overall aims of the course:

- to provide the students with the necessary information related to the different types of macro- and micronutrients, the possible routes of administration and the indications necessitating clinical nutrition.
- The course enables the students to calculate the dosage according to the patient's requirements.
- it gives the students specialized experience concerning the potential complications arising during compounding and/or administration of clinical nutrition.

9- Code: PO 906

Name of the course: Clinical Pharmacology

Credit hours

Theoretical: 2 Practical: 1 Total: 3 credit hours.

Overall aims of the course:

- To ensure that the clinical pharmacist must know the differences between basic pharmacology, clinical pharmacology and therapeutics.
- To ensure that the clinical pharmacist has the basic knowledge concerning factors affecting dosing and dose calculation.

10- Code: PB 803

Name of the course: Clinical Biochemistry

Credit hours

**Theoretical: 2 hrs Practical: 1 hrs Total: 3
credit hours**

Overall aims of the course:

This course offers clinical pharmacy students an insight on clinical laboratory analysis approaches used in the assessment of body tissue functions. This course should enable students to identify and determine constituents of body fluids and correlates the results with the functional state of various tissues such as liver, kidney, heart, bone, gastro-intestinal tract and endocrine glands.

11- Code: PP 010

Name of the course: Treatment of Dermatological & Reproductive Diseases

Credit hours

Theoretical: 1 Practical: 1 Total credit hours: 2

Overall aims of the course:

This course offers the basic background to clinical pharmacy students with the aim to enable them understand the most popular skin diseases. It also helps the students to differentiate the types of skin diseases whether infectious (bacterial, viral and fungal) or immunological and to assess different therapies used to treat these conditions.

12- Code: PO 803

Name of the course: Drug interactions

Theoretical: 2 credit hours

Practical: -----

Overall aims of the course:

- To provide the student with the general principles of drug-drug interactions
- To define the basis for the management of serious drug interactions.
- To determine the significance of any given drug-drug interactions

13- Code: PP O13

Name of the course: Gastroenterology

Credit hours

Theoretical: 2 Practical: 1 Total credit hours: 3

Overall aims of the course:

The course aims to develop and enrich the clinical pharmacy student's knowledge in areas of gastroenterology, allowing the clinical pharmacist to interact effectively as a member of medical care team. This course enables the student to understand the basic knowledge of the gastrointestinal tract (GIT) and the liver in health and disease. And to aid students to develop the attitudes and behaviors expected in good medical practice

14- Code: MD 203

Name of the course: Histology

Theoretical: 2 Practical: 1 Total: 3 credit hour

Overall aims of the course:

To give a consisted knowledge about cell structure by both LMqEM and molecular composition of cells and their specialization to form different tissues and organs of human body.

15- Code: PP 908

Name of the course: Oncology

Credit hours

Theoretical: 2 Practical: 1 Total credit hours: 3

Overall aims of the course:

This course offers the basic background to clinical pharmacy students in oncology with the aim to provide them with the necessary information regarding the commonly used radiation and chemotherapeutic treatment products for the most prevalent tumor and malignant disorders in Egyptians together with the therapeutic interventions required for the supportive care and mitigation of the side effects.

16- **Code:** MD 507

Name of the course : Pathophysiology

Theoretical: 2 credit hours **Practical:** 0 **Total:** 2 credit hours

Overall aims of the course:

The course is designed to teach students principles concerning the fundamentals of pathophysiology of the different systems of the body. The course provides an understanding of essential facts related to diseases and disorders and the altered physiology associated with those conditions that will help the students to predict the possible therapeutic approaches and interventions. The systems and conditions will include the autonomic nervous system, endocrine disorders, pancreatic disorders, fluid and electrolyte imbalance, vascular and haematological disorders, disease of urinary, pulmonary and digestive systems. The course provides the scientific background related to various pathological conditions and will deal with the alterations and deviation from the normal healthy conditions of the body.

17- **Code:** PP O11

Name of the course: Treatment of Pediatric diseases

Credit hours

Theoretical: 2

Practical: 1

Total credit hours: 3

Overall aims of the course:

The course aims to develop and enrich the clinical pharmacy student's knowledge in areas of pediatric diseases, allowing the clinical pharmacist to interact effectively as a member of medical care team. This course enables the student to understand the basic knowledge about the pathophysiology, epidemiological, clinical presentation and management of common and important pediatric diseases

18- **Code:** PO 701

Name of the course: Pharmacology-1

Theoretical: 2

Practical: 1

Total: 3 credit hours

Overall aims of the course:

- To provide the basic knowledge about commonly used groups of drugs affecting different body systems and their implications in therapy of diseases and health promotion

19- **Code:** PO 802

Name of the course: Pharmacology (2)

Theoretical: 2

Practical: 1

Total:3 credit h

Overall aims of the course:

- The aim of the course was to extend student's comprehension of essential key concepts about different drug classes affecting centrally acting drugs and cardiovascular drugs, regarding their mechanism of action, uses and side effects.

20- Code: MD 305

Name of the course: Physiology

Theoretical: 3 credit hours Practical: 1 credit hour

Total: 4 credit hours.

Overall aims of the course:

The aim of the course is to provide the students with the fundamental basic knowledge of the normal functions of the different body systems: blood ,autonomic NS,,CNS, digestive , endocrine, respiratory, renal and CVS.

21- Code: PP 014

Name of the course: Treatment of Respiratory System Diseases

Credit hours

Theoretical: 2 Practical: 1 Total credit hours: 3

Overall aims of the course:

The course aims to develop and enrich the clinical pharmacy student's knowledge in areas of respiratory diseases, allowing the clinical pharmacist to interact effectively within the hospital team. This course enables the student to understand the basics of respiratory system infectious, occupational and immunological diseases. It also helps them in the assessment of respiratory efficiency and monitoring oxygen therapy.

22- Code: PO 905

Name of the course: Therapeutics-1

Theoretical: 2 Practical: 1 Total: 3 credit hour

Overall aims of the course:

This course is aimed to provide the students with knowledge and expertise required by a clinical pharmacist to input optimally into patient care and to provide the students with

the scientific background about evaluating efficacy and safety of medication.

23- Code: PO 007

Name of the course: Therapeutics-2

Theoretical: 2 Practical: 1 Total: 3 credit hour

Overall aims of the course:

- To provide the students with knowledge and expertise required by a clinical pharmacist to input optimally into patient care.
- To build skills in recommending therapy
- To provide the students with the scientific background about evaluating efficacy and safety of medication.

24- Code: PO 904

Name of the course : Toxicology and Forensic Chemistry

Theoretical: 2 credit hour Practical: 1 credit hour

Total: 3 hours

Over all aims of the course:

This course is designed to give an overall & updated view of toxicology to clinical pharmacy students and to demonstrate & discuss the clinical aspects of toxicity and their management. It also aims at emphasizing the adverse effects & toxicity of different categories of drugs and newly introduced substances.

25- Code: MD 609

Name of the course : Traumas and first aid

Theoretical: 2 credit hours Practical: 0 Total: 2 credit hours

Overall aims of the course:

The course is designed to teach students principle information on First aid which is the provision of immediate care to a victim with an injury or illness; this will help the students to learn how to manage illness and injuries in the

first few minutes until more professional intervention is applied. The course also provides an opportunity for teaching safety, prevention and risk reduction measures.

The course includes content on basic life support for breathing and cardiac emergencies, how to control bleeding and manage shock, caring for bones and joints, soft tissue injuries and medical emergencies and Advanced Resuscitation Techniques.

26- **Code: PO E9**

Name of the course : Veterinary pharmacology

Theoretical: 2

Practical: 1

Total: 3 credit h

Overall aims of the course:

To provide the basic knowledge about the veterinary pharmacology of different body systems and the commonly used veterinary biological and pharmaceutical preparations, in addition to the general management procedures for prevention and control of livestock diseases.