

# PHARMACY ORIENTATION

FOR

PRE-PHARMACY YEAR

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# Definitions

- Orientation :

Orientation means direction

- Pharmacy orientation

A course aims to inform the pharmacy students about :

The faculty of pharmacy, education, degrees

The nature of pharmacy profession

Pharmacy careers, and pharmacy organizations

# Course Objectives

- **pharmacy education**
- **The pharmacy Profession**
- **Pharmacy role in health care**
- **Drug and dosage form**
- **Pharmacy Careers**
- **Clinical pharmacist role**
- **Pharmacy organization**
- **Students activities assessment**



# CHAPTER 1: INTRODUCTION

## DEFINITIONS AND

### PHARMACY EDUCATION



# Definitions

- **Pharmacy:**

The health science which deals with drug preparation and dispensing

- **Pharmacist (druggist):**

The person who is licensed to prepare and dispense drug.

**"Pharmacist is the drug expert"**

# Definitions

## Prescription:

The order of medication written by a physician, dentist or other medical practitioner

## Drugs:

Any chemical compound (natural or synthesized) that may be used by human or **animal** as an aid in the **diagnosis**, treatment, or prevention of disease

# Definitions

- **Clinical:**

Clinical means dealing with patients

- **Clinical pharmacy:**

Clinical pharmacy is the branch of pharmacy “Providing pharmaceutical care for patients” to optimize the use of medication and promote health, and disease prevention.

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# Basic Requirement for Clinical pharmacists



## Clinical Pharmacy Requirements





# Pharmacist locations

- **Community pharmacy**
- **Hospital pharmacy**
- **Others:**
  - Pharmacy manufacturing**
  - Wholesale drug store**



# Community pharmacy

- **Retail pharmacy (Independent or chain pharmacy)**
- **The pharmacist serves as portal of entry into the health care system (First line pharmacy) .**
- **The community pharmacist help assist these patients to find the best health specialty or deal himself with the problem for OTC ( over the counter) drugs.**

# Hospital pharmacy

- **The practice of pharmacy in private or governmental hospital dealing with inpatients or outpatients.**
- **The wide increase in hospital number make the requirement for hospital pharmacist is greater than before.**

# Pharmacy Education

- Goal :

**Provide students with scientific fundamentals to adapt the pharmacists careers to changes in health care system**



# Pharmacy license requirement

**-Bachelor of Pharmacy (BSc)**

**or**

**-Doctor of Pharmacy degree  
(PharmD).**





# Bachelor of Pharmacy

- The degree is an undergraduate academic degree in the field of pharmacy
- The degree is the basic prerequisite for registration to practice as a pharmacist in Egypt
- involve **five years** of studying ( with one additional year for residency questionable )

# Master and PhD degree

## Master degree in one pharmacy Specialty (MSc degree)

Master degree involves two main parts. First, studying some courses in both general and special pharmacy fields. Second, performing a practical experiment in you desired specialty.

## Doctor of Philosophy degree (PhD degree)

After getting your master degree in one pharmacy specialty, you can proceed to get the Doctor of Philosophy degree in the same specialty.

## Doctor of Pharmacy (Pharm.D.)

- The Doctor of Pharmacy degree is a professional degree that prepares the graduate for Clinical pharmacy practice (Clinical pharmacist).
- In USA, it is the first professional degree, and a prerequisite for licensing to practice the profession of Pharmacist.



## Doctor of Pharmacy (Pharm.D.)

- In Egypt, PharmD degree program is separated after the bachelor degree taken in two years. The first year is theoretical bases and the second year is the practical part ( clinical rounds).
- In some countries like **KSA**, Doctor of Pharmacy (PharmD) degrees is added as a separate additional year (six years studying).

# Clinical pharmacist degrees

- **1-Doctor of Pharmacy (Pharm.D.)**
- **2-Master of clinical pharmacy degree after getting bachelor of pharmacy in a faculty that have a clinical pharmacy department in the undergraduate level**



# Clinical pharmacist degrees

- **3-The Board of Pharmacy Specialties (BPS) by APhA (American Pharmacists Association):**

**Online exam held twice yearly**

**Include:**

**Board Certified Pharmacotherapy Specialist**

**Board Certified Oncology Pharmacist**

**Board Certified Nutrition Support Pharmacist**

**Board Certified Psychiatric Pharmacist**



# Clinical pharmacist degrees

## 4-Egyptian Fellowship in Clinical pharmacy

It is a professional degree offered by the ministry of health to the pharmacist after passing three years (previously two years) training program.

The program involve one year for theoretical basis and two years of training in one governmental hospital that practice clinical pharmacy like 57357 hospital.



# Pharmacy College Departments

- 1- Clinical pharmacy
- 2- Microbiology
- 3- Pharmaceutical chemistry
- 4- Pharmaceutics
- 5- Analytical chemistry
- 6- Pharmacology
- 7- Biochemistry
- 8- Pharmacognosy



# Department of pharmacy colleges

## Clinical pharmacy:

this deals with patients care, pharmacy practice, drug therapeutics, Prevention of drug interactions, Drug information service, drug level monitoring (pharmacokinetic).

## Microbiology:

Microbiology (mīkros, "small"; bios, "life"; and logia is studying. The study of microscopic organisms and its related diseases.

## Department of pharmacy colleges

### Pharmaceutical chemistry (Medicinal chemistry) :

Medicinal chemistry is concerned with discovery, design, and chemical synthesis of drugs. Organic chemistry is included in this department

### Pharmaceutics:

Pharmaceutics is the discipline of pharmacy that deals with the process of turning drug substance into a medication to be used by patients.

**“the science of dosage form design”**



# Department of pharmacy colleges

## Biochemistry:

Biochemistry or biological chemistry is the study of molecules and chemical process within the living system

## Pharmacognosy:

Pharmacognosy is the study of drugs derived from natural sources.

## Department of pharmacy colleges

### **Analytical (inorganic) chemistry :**

The study of the separation, identification, and quantification of the chemical components of natural and artificial materials.

### **Pharmacology:**

Pharmacology (pharmakon, "drug" and logia "study of) is the branch of medicine concerned with the study of drug effect and action at receptor site.

# New trends in pharmacy education

## **Pharmacogenomics:**

it is the study of the role of genetics in drug response

## **Pharmacoepidemiology:**

this studies the distribution patterns of drug effects, and side effects in defined populations.

## **Pharmacoeconomic:**

it is the science that relates the cost and effects of a pharmaceutical product.

# Pharmacovigilance

The word "pharmacovigilance" are: pharmakon (Greek for drug) and vigilare (Latin for to keep watch).

the pharmacological science relating to the detection, monitoring, and prevention of adverse effects with pharmaceutical products

Adverse drug reactions are any response to a drug which is noxious and unintended.

# Pharmacy Education Fields

- Biomedical and Basic Science
- Pharmaceutical Science
- Behavioral, Social & Administrative
- Pharmacy practice
- Professional Experience (training)





## Professional Experience

- Student training: 400 hrs training divided as following:

\*200 hrs after the second year in community pharmacy

\*200 hrs after the third year in hospital pharmacy



# Credit hours

- Every credit hour take 100 mark
- One hour from lecture equal to one credit hour
- Two hours from practical part equal to one credit hour
- Example : "medicinal plants" takes 3 credit hour divided as lecture 2 hr and practice 2 hr.

# Credit hours

- **Course classification:**
- Major courses which require 60% to pass in the exam (ex: Biology)
- Minor courses which require 50% to pass in the exam (ex: English)