

The Pharmacist's Training

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[Pharmacist](#) or type unknown

There are a series of rigorous training varying from theoretical courses to practical lectures one is expected to undergo before being certified as a pharmacist. Every of these training is put together to prepare the individual for the various areas of the pharmacy profession although specific specializations might be required to perform in some areas.



A pharmacist is expected to undergo a compulsory one-year internship program in any area of pharmacy practice and pass a licensing exam before being licensed to practice as a pharmacist in the country.

The Bachelor of Pharmacy degree program usually runs for five years and as one moves through the levels, students are expected to receive courses from each of the departments under the faculty every session. A 50% grade in each course is the minimum requirement to enable you to proceed to the next level although some courses have their pass mark at 60%. Examinations conducted at the end of each semester was used to assess the student's knowledge and determine progress in classes.

At the introductory level, fundamental information regarding the profession is taught. The key definitions, as well as some relevant histories of the profession, are learned. The departments of pharmaceutics, pharmaceutical microbiology, and

pharmacognosy are quick to introduce students to the basic principles of laboratory investigations. It is usually a totally new adventure quite different from the subjects done in high school. Pharmaceutical chemistry seems familiar since it still had to do with simple titrimetric analysis. Anatomy and physiology lessons were very interesting as it broadened one's knowledge of the structure and functions of parts of the human body.

As we journeyed through the various levels, the courses became much easier to comprehend despite the fact that they were much extensive. One very difficult aspect of pharmacy though easy for some others was the part that had to do with learning chemical structures, biosynthetic pathways and drug synthesis all taught under the area of medicinal chemistry.

Drugs are synthesized from plant and animal sources as in the case of artemisinin synthesized from *Artemisia annua*. On this basis, we were taught the principles for the analysis of biological, chemical, biochemical, and physical properties of the various natural sources of drugs. The Department of pharmacognosy and traditional medicine exposed us to another phase of learning. First, we were to identify the internal structures of plants when viewed under the microscope, even though most of us found it difficult identifying trichomes but we managed to scale through. Different extraction techniques like maceration, percolation, and Soxhlet extraction and separation techniques allowed us to extract *phytochemicals* which sometimes were found to be beneficial to health and could serve as potential drugs. The aspect of traditional medicine expanded our knowledge on the various skills, practices based on the beliefs, philosophies, and experiences peculiar to different cultures, whether definable or not, used in the treatment and prevention of diseases.

Courses on Clinical pharmacy and pharmacy administration were my favorite because it was more realistic, it offered the knowledge on history taking, communication skills, vital signs, drug therapy problems, all needed to directly deal with the patient and interact with other health care practitioners. At year three, we were introduced to a course titled pharmacy ethics and jurisprudence. A pharmacist does a little study of law; Drug laws and law guiding some pharmacy regulatory bodies. To prepare us for the business world, the rudiments of business were introduced. SWOT analysis, inventory management, and the use of cash books were some of the highlighted topics. We were given the opportunity to experience what it was like to practice in the real world; a part of the training required us to experience the practice at a community pharmacy and later at the hospital.

Preparing pharmacist for the world of drug design and manufacture, requires mandatory courses that had to do with the design, manufacture, and evaluation of drugs in different dosage forms. We learnt how to manufacture syrups, suspensions, tablets, capsules, powders, granules, e.t.c.and perform quality control tests for each. This made us appreciate the efforts put into the manufacture of any medication even the simplest of syrups. Laboratory rats were used as models for our pharmacology practicals. The objective of this practical was to study drugs and it's effects on the body. Pharmacology lectures on cardiovascular systems, renal system, Central nervous system, hematopoietic systems, gastrointestinal systems, toxicology, and chemotherapy were detailed.

Pharmaceutical microbiology was another area of study a pharmacist was expected to learn during the training. It is an applied branch of microbiology that required us to study microorganisms(bacteria, fungi, protozoan, and virus) relevant to the manufacture of antibiotics, vaccines, and some other pharmaceutical products. Prior to graduation, every student is expected to have research done. Though stressful, it gave us opportunities to make discoveries. My thesis was centered on the hematological effects of *Staphylococcus aureus* induced pneumonia on Wister rats. The procedure for the research started with sample collection from individuals diagnosed with pneumonia, isolation of *Staphylococcus aureus* organisms from the collected sample then injection of this organism into healthy rats and finally, a collection of blood samples from the rats after some weeks and sending them to the laboratory for hematological analysis. The project essentially pools knowledge gained through the different levels of training at pharmacy school.

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At graduation, my naive mindset of pharmacists just being responsible for "drug discovery" had changed. Apart from being responsible for dispensing medications and counseling patients on proper drug use which has been their traditional role, we are gradually shifting to a new era where we offer pharmaceutical care services. The training acquired has prepared the pharmacist for a wide range of career options which may include community pharmacy, clinical pharmacy, academia, industry, medical sales, law, administration, and journalism.

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