



الجامعة الوطنية - السودان  
National University - Sudan

# Master of Pharmaceutical Technology



## Overview

The Master of Pharmaceutical Industry and Technology is a specialized post-graduate program designed to prepare pharmacists for leadership roles in pharmaceutical manufacturing, industrial research, quality assurance, regulatory affairs, and product development. The program provides advanced knowledge and practical skills in pharmaceutical technology, dosage form design, manufacturing processes, quality systems, and pharmaceutical innovation.

## Program Objectives

The program aims to enable graduates to:

- Develop advanced knowledge of pharmaceutical manufacturing and industrial pharmacy.
- Apply modern technologies in pharmaceutical product development and production.
- Design, evaluate, and optimize pharmaceutical dosage forms.
- Implement quality assurance, quality control, and regulatory compliance systems.
- Conduct research and contribute to innovation in pharmaceutical technology.
- Apply Good Manufacturing Practice (GMP) and Good Laboratory Practice (GLP) principles in pharmaceutical settings.

## Learning Outcomes

**Upon successful completion of the program, graduates will be able to:**

- Perform effectively in pharmaceutical industries, research institutions, and regulatory authorities.
- Apply pharmaceutical quality, safety, and regulatory requirements throughout the product lifecycle.

- Design, formulate, manufacture, and evaluate pharmaceutical dosage forms.
- Utilize advanced drug delivery systems and pharmaceutical technologies.
- Manage pharmaceutical production processes and quality systems.
- Conduct scientific research and contribute to the advancement of pharmaceutical technology.
- Ensure compliance with national and international pharmaceutical regulations.

## Admission Requirements

Applicants must satisfy the regulations of the Ministry of Higher Education and Scientific Research and the Faculty of Graduate Studies and Scientific Research.

### Eligible applicants include holders of:

- B.Sc. (Honours) in Pharmacy with a minimum grade of Good (Second Class) or CGPA  $\geq 2.5$ .
- B.Sc. (Honours) in Pharmacy (Third Class) plus a qualifying program of 12 credit hours in Pharmacy.

## Program Structure

**Duration:** 18 Months (Three Semesters)

**Total Credits:** 35 Credit Hours

The program combines advanced coursework, laboratory training, industrial applications, research activities, and a dissertation.

## Curriculum Structure

The curriculum consists of 35 credit hours distributed over three semesters.

### Semester One

- Research Methodology
- Statistics and Drug Development
- Pharmaceutical Development
- Pharmaceutical Biotechnology
- Packaging Technology
- Biopharmaceutics and Pharmacokinetics
- Dosage Form Design

### Semester Two

- Pharmaceutical Manufacturing
- Drug Delivery Systems
- Nanotechnology
- Good Manufacturing Practice (GMP)
- Pharmaceutical Plant Selection and Design
- Pharmaceutical Engineering

### Semester Three

- Quality Control and Pharmaceutical Analysis
- Pharmaceutical Production Regulatory Requirements
- Dissertation

## Training Opportunities

**Students receive practical training through:**

Faculty of Pharmacy Laboratories, National University-Sudan  
 National University Biomedical Research Facilities  
 Pharmaceutical Manufacturing Industries and Production Sites

## Teaching and Learning Methods

- Lectures
- Practical Sessions
- Tutorials
- Seminars
- Workshops
- Research Projects

### Language of Instruction

English

## Career Opportunities

### Graduates may pursue careers as:

- Pharmaceutical Manufacturing Specialists
- Industrial Pharmacists
- Formulation and Product Development Scientists
- Quality Assurance and Quality Control Officers
- Regulatory Affairs Specialists
- Pharmaceutical Production Managers
- Research and Development Scientists
- Pharmaceutical Consultants
- Academic and Research Staff

### Award

Upon successful completion of all academic and research requirements, graduates will be awarded the degree of Master of Pharmaceutical Technology from the National University-Sudan.

**Website:** <https://postgraduate-pa.nu.edu.sd/>

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