Faculty of Pharmacy

Pharos University in Alexandria

Program Specification

Bachelor In Pharmacy Pharm D (Clinical Pharmacy) 2025

اعتماد مجلس كلية 14\9\2025

University: Pharos University in Alexandria.
Faculty: Faculty of Pharmacy

Program Specification
(2025)

1. Basic Information

ProgramTitle	Bachelor In Pharmacy Pharm D (Clinical Pharmacy)
Total number of credit hours/points of the program:	177 Crs + 6 university requirements = 183 credit hours Total
Number of academic years/levels (expected program duration):	Five years + 1 academic year (9 months) internship
Department (s) Participating (if any) in teaching the program:	Department of Pharmaceutical Chemistry (PC). Department of Pharmacognosy & Natural Products (PG). Department of Pharmacology and Therapeutics (PL). Department of Microbiology and Immunology (PM). Department of Clinical Pharmacy & Pharmacy Practice (PN). Department of Pharmaceutics & Pharmaceutical Technology (PP). English Language center Arabic Language center Computer center Communication skills center Career development and entrepreneurship center
Faculty/Institute:	Pharmacy
University/Academy:	Pharos University in Alexandria
Program majors/divisions/tracks/specialties in the final year (if any):	Not applicable
Partnerships with other parties and the nature of each (if any):	Not applicable
Name of the program coordinator (attach the assignment decision):	Associate Professor. Noha Elsalamoni
Program Specification Approval Date:	14\9\2025
Council responsible for Program Specification Approval (Attach the Decision / Minutes):	Council minutes is attached

2. Program Aims (Brief description of the overall purpose the program)

The principal aim of the Pharm-D clinical program in the faculty of Pharmacy Pharos University in Alexandria, is to graduate distinguished pharmacists specifically trained to provide optimal healthcare within and outside hospital settings. This is achieved by monitoring medication regimens, applying clinical pharmacokinetic principles to tailor therapeutic systems, and collaborating closely with physicians to enhance patient care while minimizing drug risks and interactions. Furthermore, our graduates are fully qualified for diverse roles in public and private pharmacies, pharmaceutical manufacturing, drug control and food analysis laboratories, as well as in marketing, research, and academia. By adhering to rigorous quality standards through interactive and self-directed learning, the program enhances the regional competitiveness of its graduates and contributes to community development, delivering a tangible economic impact through the rationalized and efficient use of medications in hospitals.

3. Program Structure (Curriculum)

Program Components

Requirement Category/Type		Number of Courses	Number of Credit Hours/Points	Percentage from the total number of hours/points
University Requirements		3	6	3.3%
Faculty/College Requirements (if applicable)		76	177	96.7%
Program Requirements	Total courses	79	183	100%
	Compulsory Courses	75	175	95.6%
	Elective Courses	4	8	4.4%
Requirements of the majors/ divisions/ tracks/ specializations in the final year		NA		
Other requirements	Field Training		100	
	Graduation Project	Graduate projects are included within the mandatory training year and considered as 1 round from the 6 rounds provided during the 9 months.		
	Mandatory training year		9 month\ 6 rounds	
	Other (to be mentioned)		NA	
Total Compulsory Courses		75	175	95.6%
Elective Courses		4	8	4.4%
Total		79	183	100%

Categories	Credit Hours	Percentage
Basic	**25**	**13.7%**
Pharmaceutical	**61**	**33.33%**
Medical	**42**	**23%**
Pharmacy practice	**29**	**15.8%**
Health and environmental	**10**	**5.5%**
Behavioral and social	**4**	**2.2%**
Pharmacy management	**4**	**2.2%**
Discretionary	**8**	**4.4%**

- **Program courses according to the expected study plan**

Academic Level	Semester	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	Credit Hours/ Points	Weekly Hours		
							Theoretical teaching	Tutorial	Practical training
الاول	خريف	PPC 101	Pharmacy Orientation	اجباري	كلية	1	1	0	0
الاول	خريف	PPC 102	Medical Terminology	اجباري	كلية	1	1	0	0
الاول	خريف	PCC 101	Pharmaceutical Analytical Chemistry I	اجباري	كلية	3	2	1	2
الاول	خريف	PCC 102	Pharmaceutical Organic Chemistry I	اجباري	كلية	3	2	1	2
الاول	خريف	PCC 103	Mathematics	اجباري	كلية	1	1	1	0
الاول	خريف	PCC 104	Information Technology I	اجباري	كلية	2	1	0	2
الاول	خريف	PGC 101	Human Rights and Fighting Corruption	اجباري	كلية	1	1	0	0
الاول	خريف	PLC 101	Cell Biology	اجباري	كلية	2	2	1	0
الاول	خريف	UGA 03	Arabic Language Skills	اجباري	جامعة	2	2	0	0
الاول	خريف	UGE 01	English (1)	اجباري	جامعة	2	0	2	2
الاول	ربيع	PPC 103	Physical Pharmacy	اجباري	كلية	3	2	0	2
الاول	ربيع	PCC 105	Pharmaceutical Analytical Chemistry II	اجباري	كلية	3	2	1	2
الاول	ربيع	PCC 106	Pharmaceutical Organic Chemistry II	اجباري	كلية	3	2	1	2
الاول	ربيع	PGC 102	Medicinal Plants	اجباري	كلية	3	2	1	2
الاول	ربيع	PLC 102	Anatomy and Histology	اجباري	كلية	3	2	0	2

الاول	ربيع	PLC 103	Psychology	اجباري	كلية	1	1	1	0
الاول	ربيع	UGE 02	English (2)	اجباري	جامعة	2	0	2	2
الثاني	خريف	PPC 201	Pharmaceutical Dosage Forms I	اجباري	كلية	3	2	0	2
الثاني	خريف	PPC 203	Communication Skills I	اجباري	جامعة	1	1	1	0
الثاني	خريف	PCC 201	Pharmaceutical Organic Chemistry III	اجباري	كلية	2	1	1	2
الثاني	خريف	PCC 202	Instrumental Analysis	اجباري	كلية	2	2	1	0
الثاني	خريف	PGC 201	Pharmacognosy I	اجباري	كلية	3	2	1	2
الثاني	خريف	PMC 201	General Microbiology and Immunology	اجباري	كلية	3	2	0	2
الثاني	خريف	PLC 201	Biochemistry I	اجباري	كلية	3	2	0	2
الثاني	خريف	PLC 202	Physiology and pathophysiology	اجباري	كلية	2	2	1	0
الثاني	ربيع	PPC 202	Pharmaceutical Dosage Forms II	اجباري	كلية	3	2	0	2
الثاني	ربيع	PGC 202	Pharmacognosy II	اجباري	كلية	3	2	1	2
الثاني	ربيع	PMC 202	Parasitology and Virology	اجباري	كلية	2	1	0	2
الثاني	ربيع	PLC 203	Basic Pharmacology	اجباري	كلية	3	2	0	2
الثاني	ربيع	PLC 204	Pathology	اجباري	كلية	2	2	1	0
الثاني	ربيع	PLC 205	Biochemistry II	اجباري	كلية	3	2	0	2
الثاني	ربيع	PNC 201	Biostatistics	اجباري	كلية	1	1	1	0
الثالث	خريف	PPC 301	Pharmaceutical Dosage Forms III	اجباري	كلية	3	2	0	2
الثالث	خريف	PGC 301	Phytochemistry I	اجباري	كلية	3	2	1	2
الثالث	خريف	PMC 301	Pharmaceutical Microbiology and Antimicrobials	اجباري	كلية	3	2	0	2
الثالث	خريف	PMC 303	Advanced scientific language	اجباري	كلية	2	0	2	2
الثالث	خريف	PLC 301	Pharmacology I	اجباري	كلية	3	2	0	2
الثالث	خريف	PNC 301	Scientific Writing	اجباري	كلية	1	1	1	0
الثالث	خريف	PNC 302	Pharmaceutical Legislation and Practice Ethics	اجباري	كلية	1	1	0	0
الثالث	خريف	PNC 303	Community Pharmacy Practice	اجباري	كلية	3	2	0	2
الثالث	ربيع	PPC 302	Pharmaceutical Technology	اجباري	كلية	3	2	0	2
الثالث	ربيع	PPC 303	Biopharmaceutics and Pharmacokinetics	اجباري	كلية	3	2	0	2
الثالث	ربيع	PPC 304	Communication Skills II	اجباري	جامعة	1	1	1	0
الثالث	ربيع	PGC 302	Phytochemistry II	اجباري	كلية	3	2	1	2
الثالث	ربيع	PMC 302	Medical Microbiology	اجباري	كلية	3	2	0	2
الثالث	ربيع	PLC 302	Pharmacology II	اجباري	كلية	3	2	0	2
الثالث	ربيع	PLC 303	First Aid and Basic Life Support (BLS)	اجباري	كلية	1	1	1	0
الثالث	ربيع	PNC 304	Drug Information	اجباري	كلية	2	1	0	2
الرابع	خريف	PPC 401	Advanced Drug Delivery Systems	اجباري	كلية	2	2	0	0
الرابع	خريف	PCC 401	Medicinal Chemistry I	اجباري	كلية	3	2	1	2

الرابع	خريف	PCC 402	Analytical Quality Control of Pharmaceuticals	اجباري	كلية	2	1	1	2
الرابع	خريف	PMC 401	Public Health and Preventive Medicine	اجباري	كلية	2	2	1	0
الرابع	خريف	PLC 401	Pharmacology III	اجباري	كلية	2	2	1	0
الرابع	خريف	PNC 401	Hospital Pharmacy	اجباري	كلية	3	2	0	2
الرابع	خريف	PNC 402	Clinical Pharmacokinetics	اجباري	كلية	3	2	0	2
الرابع	خريف	Choose from Table 1 elective courses		اختياري	كلية	2	1	2	0
الرابع	ربيع	PCC 403	Medicinal Chemistry II	اجباري	كلية	3	2	1	2
الرابع	ربيع	PCC 404	Information Technology II	اجباري	جامعة	2	1	0	2
الرابع	ربيع	PLC 402	Clinical Biochemistry	اجباري	كلية	3	2	0	2
الرابع	ربيع	PNC 403	Clinical Pharmacy Practice	اجباري	كلية	3	2	0	2
الرابع	ربيع	PNC 404	Management of Oncological Diseases and Radiopharmacy	اجباري	كلية	3	2	0	2
الرابع	ربيع	PNC 405	Management of Endocrine and Renal Disorders	اجباري	كلية	3	2	0	2
الرابع	ربيع	Choose from Table 1 elective courses		اختياري	كلية	2	1	2	0
الرابع	صيف	Summer training		اجباري	كلية	100 hours			
الخامس	خريف	PGC 501	Phytotherapy	اجباري	كلية	2	2	1	0
الخامس	خريف	PMC 501	Pharmaceutical Biotechnology	اجباري	كلية	2	2	1	0
الخامس	خريف	PLC 501	Toxicology and Forensic Chemistry	اجباري	كلية	3	2	0	2
الخامس	خريف	PNC 501	Clinical Research, Pharmacoepidemiology and Pharmacovigilance	اجباري	كلية	1	1	1	0
الخامس	خريف	PNC 502	Management of Neuropsychiatry diseases	اجباري	كلية	3	2	0	2
الخامس	خريف	PNC 503	Management of Dermatological, Reproductive and Musculoskeletal Diseases	اجباري	كلية	3	2	0	2
الخامس	خريف	PNC 504	Management of Pediatric Diseases	اجباري	كلية	2	2	1	0
الخامس	خريف	Choose from Table 2 elective courses		اختياري	كلية	2	1	2	0
الخامس	ربيع	PLC 502	Clinical Nutrition	اجباري	كلية	2	2	1	0
الخامس	ربيع	PNC 505	Management of Cardiovascular Diseases	اجباري	كلية	3	2	0	2
الخامس	ربيع	PNC 506	Management of Gastrointestinal Diseases	اجباري	كلية	3	2	0	2
الخامس	ربيع	PNC 507	Management of Respiratory Diseases	اجباري	كلية	2	2	1	0
الخامس	ربيع	PNC 508	Marketing and Pharmacoeconomics	اجباري	كلية	2	1	2	0
الخامس	ربيع	PNC 509	Management of Critical Care Patients	اجباري	كلية	2	1	0	2
الخامس	ربيع	PNC 510	Entrepreneurship	اجباري	كلية	1	1	1	0
الخامس	ربيع	Choose from Table2 elective courses		اختياري	كلية	2	1	2	0

Elective Courses Table 1

No.	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	CrH	Lecture	Tutorial	Lab
الرابع	PCC E01	Chromatography and Separation Techniques	اختياري	كلية	2	1	2	0
الرابع	PCC E05	Overview Of spectroscopy	اختياري	كلية	2	1	2	0
الرابع	PPC E01	Cosmetics Preparations	اختياري	كلية	2	1	2	0
الرابع	PPC E02	Good Manufacturing Practices	اختياري	كلية	2	1	2	0
الرابع	PMC E01	Environment and sustainability	اختياري	كلية	2	1	2	0
الرابع	PMC E02	Clinical immmunology	اختياري	كلية	2	1	2	0
الرابع	PMC E03	Mycology	اختياري	كلية	2	1	2	0
الرابع	PPC E03	Pharmaceutical Nanotechnology	اختياري	كلية	2	1	2	0
الرابع	PGC E01	Processing of medicinal plants	اختياري	كلية	2	1	2	0
الرابع	PGC E02	Complementary and Alternative Medicine	اختياري	كلية	2	1	2	0

Elective Courses Table 2

No.	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	CrH	Lecture	Tutorial	Lab
الخامس	PMC E04	Advanced microbiological techniques	اختياري	كلية	2	1	2	0
الخامس	PLC E01	Pharmacotherapeutics for Special Population	اختياري	كلية	2	1	2	0
الخامس	PLC E02	Geriatric Pharmacotherapy	اختياري	كلية	2	1	2	0
الخامس	PLC E04	Molecular Therapeutics	اختياري	كلية	2	1	2	0
الخامس	PNC E01	Management of chronic illness	اختياري	كلية	2	1	2	0
الخامس	PCC E02	Drug Desing	اختياري	كلية	2	1	2	0
الخامس	PCC E03	Analysis of food and flavours.	اختياري	كلية	2	1	2	0
الخامس	PCC E04	Forensic analysis	اختياري	كلية	2	1	2	0
الخامس	PPC E04	Supply Chain Mangement	اختياري	كلية	2	1	2	0
الخامس	PLC E03	Addiction and Drug Abuse	اختياري	كلية	2	1	2	0

4. Academic Standards

- **Adopted Academic Standards (NARS/ARS): NARS**
- The Faculty adopts the Academic Standards of the National Authority for Quality Assurance and Accreditation of Education (NAQAAE), Competency-Based NARS 2017, in a faculty council on 21\9\2020
- Competency-Based NARS 2017 was previously discussed and adopted in all departments' councils.
- **Date of Adoption of Standards in the governing Council:** Click or tap to enter a date. 21\9\2020. *** Decision/Minutes of the governing Council to be attached**

National Academic Reference Standards (NARS) 2017:

By completion of the program, students should achieve the following 12 competencies that cover 4 competency domains. These domains cover all essentials for practicing pharmacy profession including both drug-oriented and patient-oriented disciplines. A number of Key Elements are included in each competency, with a total of 42 key elements for all competencies. These key elements will reflect each competency in practice.

The competency domains are the followings:

Domain 1: Fundamental Knowledge
Domain 2: Professional and Ethical Practice
Domain 3: Pharmaceutical Care
Domain 4: Personal Practice

DOMAIN 1- FUNDAMENTAL KNOWLEDGE

1-1- COMPETENCY Integrate knowledge from basic and applied pharmaceutical and clinical sciences to standardize materials, formulate and manufacture products, and deliver population and patient-centered care.

KEY ELEMENTS

1-1-1- Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.

1-1-2- Utilize the proper pharmaceutical and medical terms, abbreviations and symbols in pharmacy practice.

1-1-3- Integrate knowledge from fundamental sciences to handle, identify, extract, design, prepare, analyze, and assure quality of synthetic/natural pharmaceutical materials/products.

1-1-4- Articulate knowledge from fundamental sciences to explain drugs' actions and evaluate their appropriateness, effectiveness, and safety in individuals and populations.

1-1-5- Retrieve information from fundamental sciences to solve therapeutic problems.

1-1-6- Utilize scientific literature, and collect and interpret information to enhance professional decision.

1-1-7- Identify and critically analyze newly emerging issues influencing pharmaceutical industry and patient health care.

DOMAIN 2: PROFESSIONAL AND ETHICAL PRACTICE

2-1- COMPETENCY Work collaboratively as a member of an inter-professional health care team to improve the quality of life of individuals and communities, and respect patients' rights.

KEY ELEMENTS:

2-1-1. Perform responsibilities and authorities in compliance with the legal and professional structure and role of all members of the health care professional team.

2-1-2. Adopt ethics of health care and pharmacy profession respecting patients' rights and valuing people diversity.

2-1-3. Recognize own personal and professional limitations and accept the conditions of referral to or guidance from other members of the health care team.

2-2- COMPETENCY Standardize pharmaceutical materials, formulate and manufacture pharmaceutical products, and participate in systems for dispensing, storage, and distribution of medicines.

KEY ELEMENTS:

2-2-1. Isolate, design, identify, synthesize, purify, analyze, and standardize synthetic/natural pharmaceutical materials.

2-2-2. Apply the basic requirements of quality management system in developing, manufacturing, analyzing, storing, and distributing pharmaceutical materials/ products considering various incompatibilities.

2-2-3. Recognize the principles of various tools and instruments, and select the proper techniques for synthesis and analysis of different materials and production of pharmaceuticals.

2-2-4. Adopt the principles of pharmaceutical calculations, biostatistical analysis, bioinformatics, pharmacokinetics, and bio-pharmaceutics and their applications in new drug delivery systems, dose modification, bioequivalence studies, and pharmacy practice.

2-3- COMPETENCY Handle and dispose biologicals and synthetic/natural pharmaceutical materials/products effectively and safely with respect to relevant laws and legislations.

KEY ELEMENTS:

2-3-1. Handle, identify, and dispose biologicals, synthetic/natural materials, biotechnology-based and radio-labeled products, and other materials/products used in pharmaceutical field.

2-3-2. Recognize and adopt ethical, legal, and safety guidelines for handling and disposal of biologicals, and pharmaceutical materials/products.

2-4- COMPETENCY Actively share professional decisions and proper actions to save patient's life in emergency situations including poisoning with various xenobiotics, and effectively work in forensic fields.

KEY ELEMENTS:

2-4-1- Ensure safe handling/use of poisons to avoid their harm to individuals and communities.

2-4-2- Demonstrate understanding of the first aid measures needed to save patient's life.

2-4-3- Take actions to solve any identified medicine-related and pharmaceutical care problems.

2-4-4- Assess toxicity profiles of different xenobiotics and detect poisons in biological specimens**.**

2-5- <u>COMPETENCY</u> Contribute in pharmaceutical research studies and clinical trials needed to authorize medicinal products.

KEY ELEMENTS:

2-5-1- Fulfill the requirements of the regulatory framework to authorize a medicinal product including quality, safety, and efficacy requirements.

2-5-2- Retrieve, interpret, and critically evaluate evidence-based information needed in pharmacy profession.

2-5-3- Contribute in planning and conducting research studies using appropriate methodologies.

2-6- <u>COMPETENCY</u> Perform pharmacoeconomic analysis and develop promotion, sales, marketing, and business administration skills.

KEY ELEMENTS:

2-6-1- Apply the principles of business administration and management to ensure rational use of financial and human resources.

2-6-2- Utilize the principles of drug promotion, sales, marketing, accounting, and pharmacoeconomic analysis.

DOMAIN 3: PHARMACEUTICAL CARE

3-1- <u>COMPETENCY</u> Apply the principles of body functions to participate in improving health care services using evidence-based data.

KEY ELEMENTS:

3-1-1- Apply the principles of body function and basis of genomics in health and disease states to manage different diseases.

3-1-2- Apply the principles of public health and pharmaceutical microbiology to select and assess proper methods of infection control.

3-1-3- Monitor and control microbial growth and carry out laboratory tests for identification of infections/diseases.

3-1-4- Relate etiology, epidemiology, pathophysiology, laboratory diagnosis, and clinical features of infections/diseases and their pharmacotherapeutic approaches.

3-2- <u>COMPETENCY</u> Provide counseling and education services to patients and communities about safe and rational use of medicines and medical devices.

KEY ELEMENTS:

3-2-1- Integrate the pharmacological properties of drugs including mechanisms of action, therapeutic uses, dosage, contra-indications, adverse drug reactions and drug interactions.

3-2-2- Apply the principles of clinical pharmacology and pharmacovigilance for the rational use of medicines and medical devices.

3-2-3- Provide evidence-based information about safe use of complementary medicine including phytotherapy, aromatherapy, and nutraceuticals.

3-2-4- Provide information about toxic profiles of drugs and other xenobiotics including sources, identification, symptoms, and management control.

3-2-5- Educate and counsel patients, other health care professionals, and communities about safe and proper use of medicines including OTC preparations and medical devices.

3-2-6- Maintain public awareness on social health hazards of drug misuse and abuse.

DOMAIN 4: PERSONAL PRACTICE

4-1- COMPETENCY: Express leadership, time management, critical thinking, problem solving, independent and team working, creativity and entrepreneurial skills.

KEY ELEMENTS:

4-1-1- Demonstrate responsibility for team performance and peer evaluation of other team members, and express time management skills.

4-1-2- Retrieve and critically analyze information, identify and solve problems, and work autonomously and effectively in a team.

4-1-3- Demonstrate creativity and apply entrepreneurial skills within a simulated entrepreneurial activity.

4-2- COMPETENCY Effectively communicate verbally, non-verbally and in writing with individuals and communities.

KEY ELEMENTS:

4-2-1- Demonstrate effective communication skills verbally, non-verbally, and in writing with professional health care team, patients, and communities.

4-2-2- Use contemporary technologies and media to demonstrate effective presentation skills.

4-3- COMPETENCY Express self-awareness and be a life-long learner for continuous professional improvement**.**

KEY ELEMENTS:

4-3-1- Perform self-assessment to enhance professional and personal competencies.

4-3-2- Practice independent learning needed for continuous professional development.

5. Matrix of Academic Standards (Program Outcomes POs) with Courses

Compulsory Courses (Name and code)		Academic Standards (Mention code only)											
		1.1	2.1	2.2	2.3	2.4	2.5	2.6	3.1	3.2	4.1	4.2	4.3
Pharmacy Orientation	PPC 101	1											
Medical Terminology	PPC 102	1											
Pharmaceutical Analytical Chemistry I	PCC 101	1		1	1								
Pharmaceutical Organic Chemistry I	PCC 102	1			1								
Mathematics	PCC 103	1											
Information Technology I	PCC 104							1			1	1	
Human Rights and Fighting Corruption	PGC 101		1										
Cell Biology	PLC 101	1											

Arabic Language Skills	**UGA 03**							**1**				**1**	
English I	**UGE 01**						**1**	**1**				**1**	
Physical Pharmacy	**PPC 103**	**1**											
Pharmaceutical Analytical Chemistry II	**PCC 105**	**1**		**1**									
Pharmaceutical Organic Chemistry II	**PCC 106**	**1**			**1**								
Medicinal Plants	**PGC 102**	**1**										**1**	**1**
Anatomy and Histology	**PLC 102**	**1**											
Psychology	**PLC 103**	**1**	**1**								**1**	**1**	
English 2	**UGE 02**						**1**	**1**				**1**	
Pharmaceutical Dosage Forms I	**PPC 201**	**1**		**1**									
Communication Skills I	**PPC 203**							**1**			**1**	**1**	
Pharmaceutical Organic Chemistry III	**PCC 201**	**1**		**1**									
Instrumental Analysis	**PCC 202**	**1**		**1**								**1**	
Pharmacognosy I	**PGC 201**	**1**										**1**	
General Microbiology and Immunology	**PMC 201**	**1**							**1**		**1**		
Biochemistry I	**PLC 201**	**1**		**1**	**1**								
Physiology and pathophysiology	**PLC 202**	**1**							**1**			**1**	
Pharmaceutical Dosage Forms II	**PPC 202**	**1**		**1**	**1**								
Pharmacognosy II	**PGC 202**	**1**									**1**		
Parasitology and Virology	**PMC 202**	**1**							**1**			**1**	**1**
Basic Pharmacology	**PLC 203**	**1**			**1**					**1**		**1**	
Pathology	**PLC 204**	**1**							**1**				**1**
Biochemistry II	**PLC 205**				**1**				**1**		**1**		
Biostatistics	**PNC 201**			**1**			**1**						**1**
Pharmaceutical Dosage Forms III	**PPC 301**			**1**	**1**						**1**		
Phytochemistry I	**PGC 301**			**1**							**1**		**1**
Pharmaceutical Microbiology and Antimicrobials	**PMC 301**	**1**							**1**	**1**			**1**
Advanced scientific language	**PMC 303**						**1**	**1**			**1**	**1**	
Pharmacology I	**PLC 301**	**1**					**1**		**1**	**1**			
Scientific Writing	**PNC 301**	**1**					**1**					**1**	**1**

Pharmaceutical Legislation and Practice Ethics	**PNC 302**		**1**					**1**		**1**	**1**		
Community Pharmacy Practice	**PNC 303**		**1**			**1**	**1**	**1**		**1**			
Pharmaceutical Technology	**PPC 302**	**1**		**1**			**1**				**1**		
Biopharmaceutics and Pharmacokinetics	**PPC 303**			**1**						**1**	**1**		
Communication Skills II	**PPC 304**							**1**			**1**	**1**	
Phytochemistry II	**PGC 302**			**1**							**1**		**1**
Medical Microbiology	**PMC 302**								**1**			**1**	**1**
Pharmacology II	**PLC 302**	**1**							**1**	**1**	**1**		
First Aid and Basic Life Support (BLS)	**PLC 303**		**1**			**1**						**1**	**1**
Drug Information	**PNC 304**	**1**				**1**	**1**					**1**	
Advanced Drug Delivery Systems	**PPC 401**	**1**		**1**									**1**
Medicinal Chemistry I	**PCC 401**			**1**					**1**		**1**		
Analytical Quality Control of Pharmaceuticals	**PCC 402**		**1**	**1**			**1**					**1**	
Public Health and Preventive Medicine	**PMC 401**				**1**				**1**	**1**	**1**		
Pharmacology III	**PLC 401**					**1**			**1**	**1**	**1**		
Hospital Pharmacy	**PNC 401**		**1**	**1**	**1**	**1**					**1**		
Clinical Pharmacokinetics	**PNC 402**		**1**	**1**		**1**	**1**						**1**
Medicinal Chemistry II	**PCC 403**			**1**					**1**				**1**
Information Technology II	**PCC 404**						**1**	**1**			**1**	**1**	
Clinical Biochemistry	**PLC 402**				**1**	**1**	**1**		**1**				
Clinical Pharmacy Practice	**PNC 403**		**1**			**1**			**1**	**1**			**1**
Management of Oncological Diseases and Radiopharmacy	**PNC 404**		**1**		**1**				**1**	**1**		**1**	
Management of Endocrine and Renal Disorders	**PNC 405**		**1**			**1**	**1**		**1**			**1**	
Summer training		**1**	**1**						**1**	**1**		**1**	
Phytotherapy	**PGC 501**									**1**		**1**	
Pharmaceutical Biotechnology	**PMC 501**			**1**	**1**							**1**	**1**
Toxicology and Forensic Chemistry	**PLC 501**				**1**	**1**				**1**	**1**		
Clinical Research, Pharmacoepidemiology and Pharmacovigilance	**PNC 501**						**1**			**1**	**1**		

Management of Neuropsychiatry diseases	PNC 502		1				1			1	1		
Management of Dermatological, Reproductive and Musculoskeletal Diseases	PNC 503								1	1			1
Management of Pediatric Diseases	PNC 504								1	1	1		1
Clinical Nutrition	PLC 502		1						1	1	1		
Management of Cardiovascular Diseases	PNC 505					1	1		1	1	1		
Management of Gastrointestinal Diseases	PNC 506					1	1		1	1	1		
Management of Respiratory Diseases	PNC 507					1	1		1	1	1		
Marketing and Pharmacoeconomics	PNC 508		1					1			1	1	
Management of Critical Care Patients	PNC 509	1	1				1		1		1	1	
Entrepreneurship	PNC 510		1					1			1	1	
Total competencies		**33**	**17**	**20**	**14**	**13**	**20**	**12**	**25**	**22**	**31**	**28**	**17**

- **Separate matrix of elective courses (Mid Senior)**

Compulsory Courses (Name and code)		**Academic Standards (Mention code only)**											
		1.1	2.1	2.2	2.3	2.4	2.5	2.6	3.1	3.2	4.1	4.2	4.3
Chromatography and Separation Techniques	PCC E01			1							1	1	
Overview Of spectroscopy	PCC E05	1		1							1	1	
Cosmetic preparations	PPC E01	1	1								1		
good manufacturing Practice	PPC E02	1		1	1			1			1		
Environment and sustainability	PMC E01	1			1	1					1		
Clinical Immunology	PMC E02	1							1		1		
Mycology	PMC E03	1				1			1	1	1		
Pharmaceutical Nanotechnology	PPC E03	1		1				1				1	
Processing of medicinal plants	PGC E01				1					1		1	
Complementary and Alternative Medicine	PGC E02	1							1	1		1	
Total competencies		**8**	**1**	**4**	**3**	**2**	**0**	**2**	**3**	**3**	**7**	**5**	**0**

- **separate matrix of elective courses (Senior)**

Compulsory Courses (Name and code)		Academic Standards (Mention code only)											
		1.1	2.1	2.2	2.3	2.4	2.5	2.6	3.1	3.2	4.1	4.2	4.3
Advanced Microbiological Techniques	PMC E04				1		1		1		1		
Pharmacotherapeutics for Special Populations	PLC E 01								1	1	1		1
Geriatric Pharmacotherapy	PLC E 02								1	1	1		1
Molecular therapeutics	PLC E04						1		1				
Management of chronic illness	PNC E01	1	1				1		1		1	1	
Drug Desing	PCC E02			1						1			1
Analysis of food and flavours.	PCC E03				1				1	1	1		
Forensic analysis	PCC E04				1	1				1	1		
Supply Chain Management	PPC E04			1				1				1	
Addiction and Drug Abuse	PLC E03								1	1		1	
Total competencies		**1**	**1**	**2**	**3**	**1**	**3**	**1**	**7**	**6**	**6**	**3**	**3**

6.Teaching and Learning strategies/methods to achieve Program Outcomes:

1. Lectures
2. Tutorials
3. Laboratory Sessions
4. Cooperative Learning (Group Presentations)
5. Open, Group Discussion & E-discussion
6. Pop Questions
7. Brain Storming
8. Think, Pair and Share
9. Peer Teaching
10. Artificial intelligence
11. Assignments & E-assignments
12. Case Studies
13. Site Visits
14. Field Projects
15. Graduation Projects
16. Simulation
17. Videos & audiovisual aids
18. Game based learning
19. Role play
20. Flipped Classrooms
21. Self-Learning
22. Problem Solving
23. Formative exam

7. Student Assessment strategies/methods to verify and ensure students' acquisition of Program Outcomes:

1. Course work (Practical exam (OSCE & OSPE), assignments (Self-Peer assessments), presentations, quizzes, projects, tutorial, discussion forms)
2. Field Projects
3. Mid Term exams
4. Final Written exams
5. Final Oral exams (Rubrics)
6. Booklet assessment
7. Video Call assessment

8. Program Key Performance Indicators (if any)

Name & Signature Quality Assurance manager Associate Professor. Inas Masoud **Inas**	Name & Signature Program Coordinator Associate Professor. Noha Soliman **Noha**

Name & Signature
Vice Dean for Education and Student Affairs

Associate Prof. Sherihan Salah Eldein

Sherihan