توصيف برنامج بكالوريوس الصيدلة

(Pharm D, clinical)- (فارم دي -صيدلة اكلينيكية)

طبقاً لنظام الساعات المعتمدة

كلية الصيدلة - جامعة كفرالشيخ

(2025)

Program Specification

(2025)

1. Basic Information

ProgramTitle (according to what is stated in the bylaw):	**Bachelor of Pharmacy (Pharm D.) (Clinical pharmacy)**
Total number of credit hours/points of the program:	177
Number of academic years/levels (expected program duration):	5 years + one academic year of internship
Department (s) Participating (if any) in teaching the program:	• Department of Pharmaceutical Chemistry • Department of Pharmaceutical Analytical Chemistry • Department of Biochemistry • Department of Pharmaceutical Technology • Department of Pharmacognosy • Department of Microbiology and Immunology • Department of Pharmacology & Toxicology • Department of Clinical Pharmacy.
Faculty/Institute:	Faculty of Pharmacy
University/Academy:	Kafrelsheikh University
Program majors/divisions/tracks/specialties in the final year (if any):	----
Partnerships with other parties and the nature of each (if any):	----
Name of the program coordinator (attach the assignment decision):	Prof. Dr. Ahmed Amin Ali

Program Specification Approval Date:	13/7/2025
Council responsible for Program Specification Approval (Attach the Decision / Minutes):	College Council

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

The program aims to qualify pharmacists with skills and knowledge needed to provide different pharmacy services including community pharmacy, hospital pharmacy, industrial pharmacy with special interest in the clinical pharmacy skills that enable the pharmacist to share effectively in designing the therapeutic plans for each patient taking in consideration efficacy and safety of the designed protocols.

- The graduates of Pharmacy collage, Kafrelsheikh university should be able to:

I-1 Participate in community service and environmental development and provide a tangible economic return by rationalizing the use of medicines in hospitals.

I-2 Apply the concepts of pharmaceutical care inside and outside the hospitals.

I-3 Dispense pharmaceutical product utilizing evidence-based information and manipulate with chemicals safely and effectively respecting pharmacy law and

legalizations.

I-4 Formulate and dispense pharmaceutical products from different sources.

I-5 Share and supervise the drug supply chains (rules for transporting and shipping crude material and formulated drugs).

I-6 Obey the rules of both GLP and GMP to assure the quality of raw materials, procedures and pharmaceutical products.

I-7 Participate in polices of rational drug use through education and information services provided for patients and community.

I-8 Demonstrate knowledge and understanding of diseases pathophysiology using evidence-based data as source of their information to improve health care services in collaboration with other healthcare team.

I-9 Outline, design and perform researches in their work area using scientific methodology

I-10 Evolve good presentation skills and develop entrepreneurial, promotion, marketing, business administration, numeric and computation skills.

I-11 Communicate effectively with patient and other health care teams

I-12 develop some important skills such as time management, critical thinking, problem solving, decision-making and team-working in order to make proper therapeutic decision.

I-13 Obey legal, ethical, human rights and professional rules in performing each responsibility.

I-14 Continue self-learning, self-assessment to improve his professional skills and update his knowledge.

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		**1**	**1**	**0.56 %**
Faculty/College Requirements (if applicable)		**4**	**8**	**4.49 %**
Program Requirements		**68**	**169**	**94.94 %**
Requirements of the majors/ divisions/ tracks/ specializations in the final year (if any)		**---**	**---**	**---**
Other requirements	**Field Training**		**---**	**---**
	Graduation Project		**---**	**---**
	Mandatory training year		**---**	**---**
	Other (to be mentioned)		**---**	**---**
Total Compulsory Courses		**69**	**170**	**---**
Elective Courses		**4**	**8**	**---**
Total		**73**	**178**	**---**

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

Academic Level	Semester	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	Number of Credit Hours/ Points	Number of Weekly Hours		
							Theoretical teaching	Practical training	Other
Level 1	Semester 1	**PA 101**	**Pharmaceutical Analytical Chemistry I**	compulsory	Program requirement	3	2	2	---
Level 1	Semester 1	**PC 101**	**Pharmaceutical Organic Chemistry I**	compulsory	Program requirement	3	2	2	---
Level 1	Semester 1	**PT 101**	**Pharmacy Orientation**	compulsory	Program requirement	1	1	---	---
Level 1	Semester 1	**PG 101**	**Medicinal Plants**	compulsory	Program requirement	3	2	2	---
Level 1	Semester 1	**MD 101**	**Medical Terminology**	compulsory	Program requirement	1	1	---	---
Level 1	Semester 1	**NP 101**	**Information Technology**	compulsory	Program requirement	2	1	2	---
Level 1	Semester 1	**MS 101**	**Mathematics**	compulsory	Program requirement	1	1	---	---
Level 1	Semester 1	**UR 101**	**Human Rights and Fighting Corruption**	compulsory	university requirement	1	1	---	---
Level 1	Semester 2	**PA 202**	**Pharmaceutical Analytical Chemistry II**	compulsory	Program requirement	3	2	2	---
Level 1	Semester 2	**PC 202**	**Pharmaceutical Organic Chemistry II**	compulsory	Program requirement	3	2	2	---
Level 1	Semester 2	**PB 201**	**Cell Biology**	compulsory	Program requirement	2	2	---	---
Level 1	Semester 2	**MD 202**	**Anatomy& Histology**	compulsory	Program requirement	3	2	2	---

Academic Level	Semester	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	Number of Credit Hours/ Points	Number of Weekly Hours		
							Theoretical teaching	Practical training	Other
Level 1	Semester 2	**PT 202**	**Physical Pharmacy**	compulsory	Program requirement	3	2	2	---
Level 1	Semester 2	**PG 202**	**Pharmacognosy I**	compulsory	Program requirement	3	2	2	---
Level 1	Semester 2	**MD 203**	**Psychology**	compulsory	Program requirement	1	1		---
Level 2	Semester 1	**PC 303**	**Pharmaceutical Organic Chemistry-III**	compulsory	Program requirement	3	2	2	---
Level 2	Semester 1	**PA 303**	**Instrumental Analysis**	compulsory	Program requirement	2	1	2	---
Level 2	Semester 1	**PB 302**	**Biochemistry I**	compulsory	Program requirement	3	2	2	---
Level 2	Semester 1	**PG 303**	**Pharmacognosy II**	compulsory	Program requirement	3	2	2	---
Level 2	Semester 1	**PO 301**	**Basic Pharmacology**	compulsory	Program requirement	2	2	---	---
Level 2	Semester 1	**MD 304**	**Physiology I**	compulsory	Program requirement	2	2	---	---
Level 2	Semester 1	**PT 303**	**Pharmaceutical dosage forms I**	compulsory	Program requirement	3	2	2	---
Level 2	Semester 2	**PO 402**	**Pharmacology –I**	compulsory	Program requirement	3	2	2	---
Level 2	Semester 2	**PM 401**	**General Microbiology and Genetics**	compulsory	Program requirement	3	2	2	---
Level 2	Semester 2	**PM 402**	**Immunology**	compulsory	Program requirement	1	1	---	---
Level 2	Semester 2	**NP 402**	**Scientific writing and Communication skills**	compulsory	Program requirement	1	1	---	---
Level 2	Semester 2	**MD 406**	**Pathology and pathophysiology**	compulsory	Program requirement	2	2	---	---

Academic Level	Semester	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	Number of Credit Hours/ Points	Number of Weekly Hours		
							Theoretical teaching	Practical training	Other
Level 2	Semester 2	**PT 404**	**Pharmaceutical Dosage Forms-II**	compulsory	Program requirement	3	2	2	---
Level 2	Semester 2	**PB 403**	**Biochemistry II**	compulsory	Program requirement	3	2	2	---
Level 2	Semester 2	**MD 405**	**Physiology II**	compulsory	Program requirement	2	2		---
Level 3	Semester 1	**PO 503**	**Pharmacology-II**	compulsory	Program requirement	3	2	2	---
Level 3	Semester 1	**PM 503**	**Pharmaceutical Microbiology**	compulsory	Program requirement	3	2	2	---
Level 3	Semester 1	**PM 504**	**Parasitology& Virology**	compulsory	Program requirement	3	2	2	---
Level 3	Semester 1	**PT 505**	**Pharmaceutical Dosage Forms-III**	compulsory	Program requirement	3	2	2	---
Level 3	Semester 1	**PG 504**	**Phytochemistry-I**	compulsory	Program requirement	3	2	2	---
Level 3	Semester 1	**PP 501**	**Community Pharmacy Practice**	compulsory	Program requirement	3	2	2	---
Level 3	Semester 2	**PO 604**	**Pharmacology-III**	compulsory	Program requirement	3	2	2	---
Level 3	Semester 2	**PG 605**	**Phytochemistry-II**	compulsory	Program requirement	3	2	2	---
Level 3	Semester 2	**PT 606**	**Pharmaceutical Technology**	compulsory	Program requirement	3	2	2	---
Level 3	Semester 2	**PP 602**	**Hospital Pharmacy**	compulsory	Program requirement	3	2	2	---
Level 3	Semester 2	**PP 603**	**Clinical Pharmacy Practice**	compulsory	Program requirement	3	2	2	---

Academic Level	Semester	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	Number of Credit Hours/ Points	Number of Weekly Hours		
							Theoretical teaching	Practical training	Other
Level 3	Semester 2	**MD 607**	**First Aid and Basic Life Support (BLS)**	compulsory	Program requirement	2	1	2	---
Level 4	Semester 1	**PC 704**	**Medicinal Chemistry-I**	compulsory	Program requirement	3	2	2	---
Level 4	Semester 1	**PO 705**	**Drug Information**	compulsory	Program requirement	2	1	2	---
Level 4	Semester 1	**PT 707**	**Advanced Drug Delivery Systems**	compulsory	Program requirement	2	2	---	---
Level 4	Semester 1	**PT 708**	**Biopharmaceutics and Pharmacokinetics**	compulsory	Program requirement	3	2	2	---
Level 4	Semester 1	**PM 705**	**Medical Microbiology**	compulsory	Program requirement	3	2	2	---
Level 4	Semester 1	**PA 704**	**Quality Control of Pharmaceuticals**	compulsory	Program requirement	3	2	2	---
Level 4	Semester 1	**PE ---**	**Elective course**	elective	faculty requirement	2	1	2	---
Level 4	Semester 2	**PC 805**	**Medicinal Chemistry-II**	compulsory	Program requirement	3	2	2	---
Level 4	Semester 2	**PP 804**	**Management of Endocrine and Renal Disorders**	compulsory	Program requirement	3	2	2	---
Level 4	Semester 2	**PP 805**	**Management of Oncological Diseases and Radiopharmacy**	compulsory	Program requirement	3	2	2	---
Level 4	Semester 2	**PP 806**	**Clinical Pharmacokinetics**	compulsory	Program requirement	3	2	2	---

Academic Level	Semester	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	Number of Credit Hours/ Points	Number of Weekly Hours		
							Theoretical teaching	Practical training	Other
Level 4	Semester2	**PB 804**	**Clinical Biochemistry**	compulsory	Program requirement	3	2	2	---
Level 4	Semester 2	**PM 806**	**Public Health and Preventive Medicine**	compulsory	Program requirement	2	2		---
Level 4	Semester 2	**NP 803**	**Pharmacy Legislation and practice ethics**	compulsory	Program requirement	1	1		---
Level 4	Semester 2	**PE ---**	**Elective Course**	elective	faculty requirement	2	1	2	---
Level 5	Semester 1	**PO 906**	**Basic & clinical Toxicology**	compulsory	Program requirement	3	2	2	---
Level 5	Semester 1	**PP 907**	**Management of Neuropsychiatric Diseases**	compulsory	Program requirement	3	2	2	---
Level 5	Semester 1	**PM 907**	**Biotechnology**	compulsory	Program requirement	3	2	2	---
Level 5	Semester 1	**PG 906**	**Phytotherapy**	compulsory	Program requirement	3	2	2	---
Level 5	Semester 1	**PB 905**	**Clinical Nutrition**	compulsory	Program requirement	2	1	2	---
Level 5	Semester 1	**NP 904**	**Marketing &Pharmacoeconomics**	compulsory	Program requirement	2	2		---
Level 5	Semester 1	**NP 905**	**Entrepreneurship**	compulsory	Program requirement	1	1		---
Level 5	Semester 1	**PE ---**	**Elective Course**	elective	faculty requirement	2	1	2	---
Level 5	Semester 2	**PP 008**	**Management of Critical Care Patients**	compulsory	Program requirement	2	1	2	---

Academic Level	Semester	Course Code	Course Title	Course Type (Compulsory / Elective)	Requirement Category/ Type	Number of Credit Hours/ Points	Number of Weekly Hours		
							Theoretical teaching	Practical training	Other
Level 5	Semester 2	**PP 009**	**Management of Dermatological, Reproductive and Musculoskeletal Diseases**	compulsory	Program requirement	2	1	2	---
Level 5	Semester 2	**PP 010**	**Management of Pediatric Diseases**	compulsory	Program requirement	3	2	2	---
Level 5	Semester 2	**PP 011**	**Management of Cardiovascular Diseases**	compulsory	Program requirement	2	1	2	---
Level 5	Semester 2	**PP 012**	**Management of Gastrointestinal Diseases**	compulsory	Program requirement	3	2	2	---
Level 5	Semester 2	**PP 013**	**Management of Respiratory Diseases**	compulsory	Program requirement	2	1	2	---
Level 5	Semester 2	**PP 014**	**Clinical Research and Pharmacovigilance**	compulsory	Program requirement	1	1	---	---
Level 5	Semester 2	**PE ---**	**Elective**	elective	faculty requirement	2	1	2	---

4. Academic Standards

- **Adopted Academic Standards (NARS/ARS): NARS**
- **Date of Adoption of Standards in the governing Council: 11/11/2019**

National Academic Reference Standard (NARS):

1. Attributes of the Pharmacy Graduates

Pharmacy graduates work in a multi-disciplinary profession to improve the quality of life of individuals and communities. Based on multi-national requirements, the pharmacy graduate must develop competencies of a learner, health caregiver and provider, professional, collaborator, manager, promoter, problem solver, educator and communicator, self-aware, leader, and innovator. Pharmacy graduates must acquire the necessary attributes related to various pharmacy aspects including drug-oriented and patient-oriented pharmacy disciplines to actively participate in pharmaceutical care. Pharmacy graduate must be able to:

1. Educate and counsel individuals and communities to participate in optimizing therapeutic outcomes and minimizing the incidence of illness of individuals and populations.
2. Practice and perform responsibilities and authorities legally, professionally, and ethically respecting patients' rights.
3. Utilize evidence-based data to deliver contemporary pharmaceutical products and pharmacy services.
4. Assure the quality of pharmaceutical materials and products.
5. Apply integrated evidence-based pharmaceutical and clinical information in assessing the appropriateness, effectiveness, and safety of medications.
6. Contribute effectively to planning and conducting research using appropriate methodologies.
7. Work collaboratively and share therapeutic decision-making as a member of an inter-professional health care team.
8. Demonstrate effective communication, leadership, business administration, and entrepreneurial skills.
9. Work as a life-long learner for continuous professional improvement and demonstrate capabilities of performance appraisal and self-assessment.

2. Competencies of the Pharmacy Graduates

Four **Competency Domains** are included in these competency-based National Academic Reference Standards for Pharmacy Education. These domains are designed to cover all essentials for practicing pharmacy profession including both drug-oriented and patient-oriented disciplines. Each domain should be achieved through several **Competencies** ranging from one to six, with a total of twelve competencies for all domains. These competencies are overall broad statements that cover various areas of graduate performance. A number of **Key Elements** ranging from two to seven are included in each competency, with a total of forty-two key elements for all competencies. These key elements demonstrate how pharmacy graduates will reflect their competency in practice. The competency domains are the following:

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 decisions.

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 your 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 biopharmaceutics and their applications in new drug delivery systems, dose modification, bioequivalence studies, and pharmacy practice.

2-3- Competency

Handle and dispose biological 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 fields.
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- Competency

Contribute to 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- Competency

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- Competency

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 the 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- Competency

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 teamwork, 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 teams, 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 is needed for continuous professional development.

Coverage of National Academic Reference Standards by the Faculty of Pharmacy- program aims

Attributes of graduates		Program aims
Pharmacy graduates work in a multi-disciplinary profession to improve the quality of life of individuals and communities. Based on multi-national requirements, the pharmacy graduate must develop competencies of learner, health caregiver and provider, professional, collaborator, manager, promoter, problem solver, educators and communicator, self-aware, leader, and innovator. Pharmacy graduates must acquire the necessary attributes related to various pharmacy aspects including drug-oriented and patient-oriented pharmacy disciplines to actively participate in pharmaceutical care. Pharmacy graduates must be able to:		
1.1	Educate and counsel individuals and communities to participate in optimizing therapeutic outcomes and minimizing the incidence of illness of individuals and populations.	1.1 1.2
1.2	Practice and perform responsibilities and authorities legally, professionally, and ethically respecting patients' rights.	1.13
1.3	Utilize evidence-based data to deliver contemporary pharmaceutical products and pharmacy services.	1.3 1.4 1.5
1.4	Assure the quality of pharmaceutical materials and products.	1.6
1.5	Apply integrated evidence-based pharmaceutical and clinical information in assessing the appropriateness, effectiveness, and safety of medications	1.7 1.8
1.6	Contribute effectively in planning and conducting research using appropriate methodologies	1.9
1.7	Work collaboratively and share therapeutic decision-making as a member of an inter-professional health care team.	1.12
1.8	Demonstrate effective communication, leadership, business administration, and entrepreneurial skills	1.10 1.11
1.9	Work as a life-long learner for continuous professional improvement and demonstrate capabilities of performance appraisal and self-assessment.	1.14

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

	Course name and code	DOMAIN 1- FUNDAMENTAL KNOWLEDGE (1-1)						
		1	2	3	4	5	6	7
1	Pharmaceutical Analytical Chemistry I - PA 101	■		■				
2	Pharmaceutical Organic Chemistry I- PC 101	■		■				
3	Pharmacy Orientation - PT 101	■	■					
4	Medicinal Plants- PG 101	■		■			■	■
5	Medical Terminology- MD 101	■	■	■				
6	Information Technology- NP 101	■						
7	Mathematics- MS 101	■						
8	Human Rights and Fighting Corruption- UR 101	■						
9	Pharmaceutical Analytical Chemistry II- PA 202	■		■				
10	Pharmaceutical Organic Chemistry II- PC 202	■		■				
11	Cell Biology- PB 201	■						
12	Anatomy& Histology- MD 202	■						
13	Physical Pharmacy- PT 202	■		■				
14	Pharmacognosy I- PG 202	■	■	■	■	■	■	■
15	Psychology- MD 203	■						
16	Pharmaceutical Organic Chemistry-III- PC 303	■		■			■	
17	Instrumental Analysis- PA 303	■		■				
18	Biochemistry I- PB 302	■						
19	Pharmacognosy II- PG 303	■	■	■	■	■	■	■
20	Basic Pharmacology- PO 301	■						
21	Physiology I- MD 304	■						
22	Pharmaceutical dosage forms I- PT 303	■		■				
23	Pharmacology –I- PO 402	■			■	■		
24	General Microbiology and Genetics- PM 401	■						

	Course name and code	DOMAIN 1- FUNDAMENTAL KNOWLEDGE (1-1)						
		1	2	3	4	5	6	7
25	Immunology- PM 402							
26	Scientific writing and Communication skills- NP 402							
27	Pathology and pathophysiology- MD 406							
28	Pharmaceutical Dosage Forms-II- PT 404							
29	Biochemistry II- PB 403							
30	Physiology II- MD 405							
31	Pharmacology-II- PO 503							
32	Pharmaceutical Microbiology- PM 503							
33	Parasitology & Virology- PM 504							
34	Pharmaceutical Dosage Forms-III- PT 505							
35	Phytochemistry-I- PG 504							
36	Community Pharmacy Practice- PP 501							
37	Pharmacology-III- PO 604							
38	Phytochemistry-II- PG 605							
39	Pharmaceutical Technology- PT 606							
40	Hospital Pharmacy- PP 602							
41	Clinical Pharmacy Practice- PP 603							
42	First Aid and Basic Life Support (BLS)- MD 607							
43	Medicinal Chemistry-I- PC 704							
44	Drug Information- PO 705							
45	Advanced Drug Delivery Systems- PT 707							
46	Biopharmaceutics and Pharmacokinetics- PT 708							
47	Medical Microbiology- PM 705							
48	Quality Control of Pharmaceuticals- PA 704							

	Course name and code	DOMAIN 1- FUNDAMENTAL KNOWLEDGE (1-1)						
		1	2	3	4	5	6	7
49	Medicinal Chemistry-II- PC 805							
50	Management of Endocrine and Renal Disorders- PP 804							
51	Management of Oncological Diseases and Radio pharmacy- PP 805							
52	Clinical Pharmacokinetics- PP 806							
53	Clinical Biochemistry- PB 804							
54	Public Health and Preventive Medicine- PM 806							
55	Pharmacy Legislation and practice ethics- NP 803							
56	Basic & clinical Toxicology- PO 906							
57	Management of Neuropsychiatric Diseases- PP 907							
58	Biotechnology- PM 907							
59	Phytotherapy- PG 906							
60	Clinical Nutrition- PB 905							
61	Marketing &Pharmacoeconomics- NP 904							
62	Entrepreneurship- NP 905							
63	Management of Critical Care Patients- PP 008							
64	Management of Dermatological Reproductive and Musculoskeletal Diseases- PP 009							
65	Management of Pediatric Diseases- PP 010							
66	Management of Cardiovascular Diseases- PP 011							
67	Management of Gastrointestinal Diseases- PP 012							
68	Management of Respiratory Diseases- PP 013							
69	Clinical Research and Pharmacovigilance- PP 014							

	Course name and code (Elective courses)	DOMAIN 1- FUNDAMENTAL KNOWLEDGE (1-1)						
		1	2	3	4	5	6	7
1	Drug Design-PC E6	■		■			■	
2	Advanced Pharmaceutical Analysis – Spectroscopy- PAE5	■		■			■	■
3	Complementary Therapies- PG E7	■			■	■	■	■
4	Production and Manufacture of Medicinal Plants- PG E8	■		■			■	■
5	Chromatography and Separation Techniques- PG E9	■		■			■	
6	Applied Industrial Pharmacy- PT E9	■		■				■
7	Good Manufacturing Practices- PT E10	■		■				■
8	Antibiotic stewardship- PM E8	■				■	■	■
9	Infection Control- PM E9	■						
10	Bioinformatics- PM E10	■						
11	Cosmetic Preparations- PT E11	■		■			■	
12	Biological Standardization- PO E7	■					■	
13	Veterinary Pharmacology- PO E8	■			■	■	■	
14	Geriatric pharmacotherapy- PP E15	■			■	■	■	■
15	Processing of medicinal plants- PG E10	■		■			■	
16	Aromatherapy and herbal cosmetics- PG E11	■			■	■	■	■
17	Biotechnology of medicinal plants- PG E12	■		■			■	■
18	Veterinary pharmacy- PT E12	■			■	■	■	
19	Interprofessional Skills- PP E16	■	■					
20	Pharmacoeconomics- PP E17	■					■	
21	Advanced pharmaceutical technology- PT E13	■						■
22	Medical devices- PT E14	■		■				
23	Drug Metabolism and Transport- PT E15	■						
24	Protein Pharmaceuticals- PT E16	■						

	Course name and code	DOMAIN 2: PROFESSIONAL AND ETHICAL PRACTICE																		
		(2-1)			(2-2)				(2-3)		(2-4)				(2-5)			(2-6)	
		1	2	3	1	2	3	4	1	2	1	2	3	4	1	2	3	1	2
1	Pharmaceutical Analytical Chemistry I - PA 101				■	■	■		■	■	■				■				
2	Pharmaceutical Organic Chemistry I- PC 101				■	■	■		■	■	■								
3	Pharmacy Orientation - PT 101	■	■			■									■				
4	Medicinal Plants- PG 101				■	■	■		■	■									
5	Medical Terminology- MD 101																		
6	Information Technology- NP 101							■											
7	Mathematics- MS 101							■											
8	Human Rights and Fighting Corruption- UR 101	■	■												■				
9	Pharmaceutical Analytical Chemistry II- PA 202				■	■	■		■	■	■				■				
10	Pharmaceutical Organic Chemistry II- PC 202				■	■	■		■	■	■								
11	Cell Biology- PB 201																		
12	Anatomy& Histology- MD 202																		
13	Physical Pharmacy- PT 202					■	■	■	■	■									
14	Pharmacognosy I- PG 202				■	■	■		■	■	■			■		■			
15	Psychology- MD 203			■															
16	Pharmaceutical Organic Chemistry-III- PC 303				■	■	■		■	■									
17	Instrumental Analysis- PA 303				■	■	■		■	■					■		■		
18	Biochemistry I- PB 302								■	■									
19	Pharmacognosy II- PG 303				■	■	■		■	■	■			■		■			
20	Basic Pharmacology- PO 301																		
21	Physiology I- MD 304																		
22	Pharmaceutical dosage forms I- PT 303				■	■	■	■	■	■									
23	Pharmacology –I- PO 402		■					■	■	■				■					
24	General Microbiology and Genetics- PM 401																		

	Course name and code	DOMAIN 2: PROFESSIONAL AND ETHICAL PRACTICE																		
		(2-1)			(2-2)				(2-3)		(2-4)				(2-5)			(2-6)		
		1	2	3	1	2	3	4	1	2	1	2	3	4	1	2	3	1	2
25	Immunology- PM 402											■	■	■		■			
26	Scientific writing and Communication skills- NP 402															■	■		
27	Pathology and pathophysiology- MD 406																		
28	Pharmaceutical Dosage Forms-II- PT 404				■	■	■	■	■	■									
29	Biochemistry II- PB 403								■	■									
30	Physiology II- MD 405																		
31	Pharmacology-II- PO 503		■					■	■	■			■						
32	Pharmaceutical Microbiology- PM 503					■	■	■	■	■					■	■	■		
33	Parasitology & Virology- PM 504		■									■		■		■			
34	Pharmaceutical Dosage Forms-III- PT 505				■	■	■	■	■	■									
35	Phytochemistry-I- PG 504				■	■	■	■	■	■					■		■		
36	Community Pharmacy Practice- PP 501	■	■	■				■							■	■			
37	Pharmacology-III- PO 604		■					■					■				■		
38	Phytochemistry-II- PG 605				■	■	■	■	■	■					■		■		
39	Pharmaceutical Technology- PT 606					■		■	■						■				
40	Hospital Pharmacy- PP 602	■	■	■				■			■	■	■			■	■		
41	Clinical Pharmacy Practice- PP 603		■	■									■			■	■		
42	First Aid and Basic Life Support (BLS)- MD 607		■	■								■							
43	Medicinal Chemistry-I- PC 704				■	■	■	■	■	■		■			■		■		
44	Drug Information- PO 705	■	■	■								■	■	■	■	■			■
45	Advanced Drug Delivery Systems- PT 707					■	■	■	■	■							■		
46	Biopharmaceutics and Pharmacokinetics- PT 708							■											
47	Medical Microbiology- PM 705		■									■		■		■			
48	Quality Control of Pharmaceuticals- PA 704					■	■		■	■					■				

	Course name and code	DOMAIN 2: PROFESSIONAL AND ETHICAL PRACTICE																	
		(2-1)			(2-2)				(2-3)		(2-4)				(2-5)			(2-6)	
		1	2	3	1	2	3	4	1	2	1	2	3	4	1	2	3	1	2
49	Medicinal Chemistry-II- PC 805				■	■	■	■	■	■			■		■		■		
50	Management of Endocrine and Renal Disorders- PP 804		■	■				■					■			■			
51	Management of Oncological Diseases and Radio pharmacy- PP 805		■	■				■					■			■			
52	Clinical Pharmacokinetics- PP 806							■								■			
53	Clinical Biochemistry- PB 804	■	■	■					■	■				■		■	■		
54	Public Health and Preventive Medicine- PM 806		■								■	■	■			■			
55	Pharmacy Legislation and practice ethics- NP 803	■	■	■											■				■
56	Basic & clinical Toxicology- PO 906		■	■							■	■	■	■		■			
57	Management of Neuropsychiatric Diseases- PP 907		■	■				■					■			■			
58	Biotechnology- PM 907					■	■	■	■	■							■		
59	Phytotherapy- PG 906		■			■					■		■			■	■		
60	Clinical Nutrition- PB 905	■	■	■												■	■		
61	Marketing &Pharmacoeconomics- NP 904																	■	■
62	Entrepreneurship- NP 905																	■	■
63	Management of Critical Care Patients- PP 008		■	■				■					■			■	■		
64	Management of Dermatological Reproductive and Musculoskeletal Diseases- PP 009		■	■				■					■			■	■		
65	Management of Pediatric Diseases- PP 010		■	■				■					■			■	■		
66	Management of Cardiovascular Diseases- PP 011		■	■				■					■			■	■		
67	Management of Gastrointestinal Diseases- PP 012		■	■				■					■			■	■		
68	Management of Respiratory Diseases- PP 013		■	■				■					■			■	■		
69	Clinical Research and Pharmacovigilance- PP 014	■	■	■				■					■			■	■		

	Course name and code (Elective courses)	DOMAIN 2: PROFESSIONAL AND ETHICAL PRACTICE																
		(2-1)			(2-2)				(2-3)		(2-4)				(2-5)			(2-6)	
		1	2	3	1	2	3	4	1	2	1	2	3	4	1	2	3	1	2
1	Drug Design-PC E6				■	■	■									■	■		
2	Advanced Pharmaceutical Analysis				■		■		■	■									
3	Complementary Therapies- PG E7	■	■	■												■	■		
4	Production and Manufacture of				■	■	■		■	■							■		
5	Chromatography and Separation				■	■	■		■	■					■		■		
6	Applied Industrial Pharmacy- PT					■		■	■	■					■				
7	Good Manufacturing Practices- PT					■		■	■	■					■				
8	Antibiotic stewardship- PM E8							■	■		■					■	■		
9	Infection Control- PM E9	■	■	■															
10	Bioinformatics- PM E10							■	■										
11	Cosmetic Preparations- PT E11					■	■	■	■	■									
12	Biological Standardization- PO E7							■	■	■							■		
13	Veterinary Pharmacology- PO E8												■		■		■		
14	Geriatric pharmacotherapy- PP		■	■				■					■			■	■		
15	Processing of medicinal plants- PG				■	■	■										■		
16	Aromatherapy and herbal		■	■							■					■	■		
17	Biotechnology of medicinal plants-					■	■		■	■						■	■		
18	Veterinary pharmacy- PT E12						■	■	■	■					■	■			
19	Interprofessional Skills- PP E16		■	■														■	
20	Pharmacoeconomics- PP E17							■										■	■
21	Advanced pharmaceutical technology- PT E13					■		■	■						■	■			
22	Medical devices- PT E14							■							■				
23	Drug Metabolism and Transport-							■											
24	Protein Pharmaceuticals- PT E16					■	■	■	■										

	Course name and code	DOMAIN 3: PHARMACEUTICAL CARE									
		(3-1)				(3-2)					
		1	2	3	4	1	2	3	4	5	6
1	Pharmaceutical Analytical Chemistry I – PA 101										
2	Pharmaceutical Organic Chemistry I- PC 101										
3	Pharmacy Orientation - PT 101										
4	Medicinal Plants- PG 101					■		■			
5	Medical Terminology- MD 101										
6	Information Technology- NP 101										
7	Mathematics- MS 101										
8	Human Rights and Fighting Corruption- UR 101										
9	Pharmaceutical Analytical Chemistry II- PA 202										
10	Pharmaceutical Organic Chemistry II- PC 202										
11	Cell Biology- PB 201	■									
12	Anatomy& Histology- MD 202	■									
13	Physical Pharmacy- PT 202										
14	Pharmacognosy I- PG 202					■		■	■		
15	Psychology- MD 203										
16	Pharmaceutical Organic Chemistry-III- PC 303										
17	Instrumental Analysis- PA 303										
18	Biochemistry I- PB 302	■									
19	Pharmacognosy II- PG 303					■		■	■		
20	Basic Pharmacology- PO 301	■									
21	Physiology I- MD 304	■									
22	Pharmaceutical dosage forms I- PT 303										
23	Pharmacology –I- PO 402					■	■				
24	General Microbiology and Genetics- PM 401		■	■	■						

	Course name and code	DOMAIN 3: PHARMACEUTICAL CARE									
		(3-1)				(3-2)					
		1	2	3	4	1	2	3	4	5	6
25	Immunology- PM 402	■	■	■	■				■		
26	Scientific writing and Communication skills- NP 402							■		■	
27	Pathology and pathophysiology- MD 406	■			■						
28	Pharmaceutical Dosage Forms-II- PT 404										
29	Biochemistry II- PB 403	■									
30	Physiology II- MD 405	■									
31	Pharmacology-II- PO 503					■	■				
32	Pharmaceutical Microbiology- PM 503		■	■		■					
33	Parasitology & Virology- PM 504	■	■	■	■						
34	Pharmaceutical Dosage Forms-III- PT 505										
35	Phytochemistry-I- PG 504							■	■		
36	Community Pharmacy Practice- PP 501				■	■	■	■	■	■	■
37	Pharmacology-III- PO 604					■	■		■		
38	Phytochemistry-II- PG 605							■	■		
39	Pharmaceutical Technology- PT 606										
40	Hospital Pharmacy- PP 602					■	■	■	■	■	■
41	Clinical Pharmacy Practice- PP 603				■	■	■	■	■	■	■
42	First Aid and Basic Life Support (BLS)- MD 607								■	■	■
43	Medicinal Chemistry-I- PC 704					■					
44	Drug Information- PO 705					■	■	■	■	■	■
45	Advanced Drug Delivery Systems- PT 707										
46	Biopharmaceutics and Pharmacokinetics- PT 708										
47	Medical Microbiology- PM 705	■	■	■	■				■		
48	Quality Control of Pharmaceuticals- PA 704										

	Course name and code	DOMAIN 3: PHARMACEUTICAL CARE									
		(3-1)				(3-2)					
		1	2	3	4	1	2	3	4	5	6
49	Medicinal Chemistry-II- PC 805										
50	Management of Endocrine and Renal Disorders- PP 804										
51	Management of Oncological Diseases and Radio pharmacy- PP 805										
52	Clinical Pharmacokinetics- PP 806										
53	Clinical Biochemistry- PB 804										
54	Public Health and Preventive Medicine- PM 806										
55	Pharmacy Legislation and practice ethics- NP 803										
56	Basic & clinical Toxicology- PO 906										
57	Management of Neuropsychiatric Diseases- PP 907										
58	Biotechnology- PM 907										
59	Phytotherapy- PG 906										
60	Clinical Nutrition- PB 905										
61	Marketing &Pharmacoeconomics- NP 904										
62	Entrepreneurship- NP 905										
63	Management of Critical Care Patients- PP 008										
64	Management of Dermatological Reproductive and Musculoskeletal Diseases- PP 009										
65	Management of Pediatric Diseases- PP 010										
66	Management of Cardiovascular Diseases- PP 011										
67	Management of Gastrointestinal Diseases- PP 012										
68	Management of Respiratory Diseases- PP 013										
69	Clinical Research and Pharmacovigilance- PP 014										

	Course name and code (Elective courses)	DOMAIN 3: PHARMACEUTICAL CARE									
		(3-1)				(3-2)					
		1	2	3	4	1	2	3	4	5	6
1	Drug Design-PC E6										
2	Advanced Pharmaceutical Analysis –Spectroscopy- PAE5										
3	Complementary Therapies- PG E7	■			■	■	■	■		■	
4	Production and Manufacture of Medicinal Plants- PG E8							■			
5	Chromatography and Separation Techniques- PG E9										
6	Applied Industrial Pharmacy- PT E9										
7	Good Manufacturing Practices- PT E10										
8	Antibiotic stewardship- PM E8		■	■	■					■	■
9	Infection Control- PM E9		■	■	■						■
10	Bioinformatics- PM E10										
11	Cosmetic Preparations- PT E11										
12	Biological Standardization- PO E7										
13	Veterinary Pharmacology- PO E8	■			■	■	■				■
14	Geriatric pharmacotherapy- PP E15	■	■			■	■	■	■	■	■
15	Processing of medicinal plants- PG E10										
16	Aromatherapy and herbal cosmetics- PG E11				■	■	■	■	■	■	
17	Biotechnology of medicinal plants- PG E12										
18	Veterinary pharmacy- PT E12										
19	Interprofessional Skills- PP E16										
20	Pharmacoeconomics- PP E17										
21	Advanced pharmaceutical technology- PT E13										
22	Medical devices- PT E14					■	■	■		■	
23	Drug Metabolism and Transport- PT E15										
24	Protein Pharmaceuticals- PT E16										

	Course name and code	DOMAIN 4: PERSONAL PRACTICE						
		(4-1)			(4-2)		(4-3)	
		1	2	3	1	2	1	2
1	Pharmaceutical Analytical Chemistry I – PA 101							
2	Pharmaceutical Organic Chemistry I- PC 101							
3	Pharmacy Orientation - PT 101					■		
4	Medicinal Plants- PG 101	■	■		■			
5	Medical Terminology- MD 101							
6	Information Technology- NP 101					■		
7	Mathematics- MS 101							
8	Human Rights and Fighting Corruption- UR 101	■	■					
9	Pharmaceutical Analytical Chemistry II- PA 202							
10	Pharmaceutical Organic Chemistry II- PC 202							
11	Cell Biology- PB 201							
12	Anatomy& Histology- MD 202							
13	Physical Pharmacy- PT 202					■		
14	Pharmacognosy I- PG 202					■		
15	Psychology- MD 203	■	■		■		■	
16	Pharmaceutical Organic Chemistry-III- PC 303					■		
17	Instrumental Analysis- PA 303						■	
18	Biochemistry I- PB 302					■		
19	Pharmacognosy II- PG 303					■		
20	Basic Pharmacology- PO 301					■		
21	Physiology I- MD 304							
22	Pharmaceutical dosage forms I- PT 303					■		
23	Pharmacology –I- PO 402					■		
24	General Microbiology and Genetics- PM 401							

	Course name and code	DOMAIN 4: PERSONAL PRACTICE						
		(4-1)			(4-2)		(4-3)	
		1	2	3	1	2	1	2
25	Immunology- PM 402							
26	Scientific writing and Communication skills- NP 402							
27	Pathology and pathophysiology- MD 406							
28	Pharmaceutical Dosage Forms-II- PT 404							
29	Biochemistry II- PB 403							
30	Physiology II- MD 405							
31	Pharmacology-II- PO 503							
32	Pharmaceutical Microbiology- PM 503							
33	Parasitology & Virology- PM 504							
34	Pharmaceutical Dosage Forms-III- PT 505							
35	Phytochemistry-I- PG 504							
36	Community Pharmacy Practice- PP 501							
37	Pharmacology-III- PO 604							
38	Phytochemistry-II- PG 605							
39	Pharmaceutical Technology- PT 606							
40	Hospital Pharmacy- PP 602							
41	Clinical Pharmacy Practice- PP 603							
42	First Aid and Basic Life Support (BLS)- MD 607							
43	Medicinal Chemistry-I- PC 704							
44	Drug Information- PO 705							
45	Advanced Drug Delivery Systems- PT 707							
46	Biopharmaceutics and Pharmacokinetics- PT 708							
47	Medical Microbiology- PM 705							
48	Quality Control of Pharmaceuticals- PA 704							

	Course name and code	DOMAIN 4: PERSONAL PRACTICE						
		(4-1)			(4-2)		(4-3)	
		1	2	3	1	2	1	2
49	Medicinal Chemistry-II- PC 805							
50	Management of Endocrine and Renal Disorders- PP 804							
51	Management of Oncological Diseases and Radio pharmacy- PP 805							
52	Clinical Pharmacokinetics- PP 806							
53	Clinical Biochemistry- PB 804							
54	Public Health and Preventive Medicine- PM 806							
55	Pharmacy Legislation and practice ethics- NP 803							
56	Basic & clinical Toxicology- PO 906							
57	Management of Neuropsychiatric Diseases- PP 907							
58	Biotechnology- PM 907							
59	Phytotherapy- PG 906							
60	Clinical Nutrition- PB 905							
61	Marketing &Pharmacoeconomics- NP 904							
62	Entrepreneurship- NP 905							
63	Management of Critical Care Patients- PP 008							
64	Management of Dermatological Reproductive and Musculoskeletal Diseases- PP 009							
65	Management of Pediatric Diseases- PP 010							
66	Management of Cardiovascular Diseases- PP 011							
67	Management of Gastrointestinal Diseases- PP 012							
68	Management of Respiratory Diseases- PP 013							
69	Clinical Research and Pharmacovigilance- PP 014							

	Course name and code	DOMAIN 4: PERSONAL PRACTICE						
		(4-1)			(4-2)		(4-3)	
		1	2	3	1	2	1	2
1	Drug Design-PC E6							
2	Advanced Pharmaceutical Analysis –Spectroscopy- PAE5							
3	Complementary Therapies- PG E7							
4	Production and Manufacture of Medicinal Plants- PG E8							
5	Chromatography and Separation Techniques- PG E9							
6	Applied Industrial Pharmacy- PT E9							
7	Good Manufacturing Practices- PT E10							
8	Antibiotic stewardship- PM E8							
9	Infection Control- PM E9							
10	Bioinformatics- PM E10							
11	Cosmetic Preparations- PT E11							
12	Biological Standardization- PO E7							
13	Veterinary Pharmacology- PO E8							
14	Geriatric pharmacotherapy- PP E15							
15	Processing of medicinal plants- PG E10							
16	Aromatherapy and herbal cosmetics- PG E11							
17	Biotechnology of medicinal plants- PG E12							
18	Veterinary pharmacy- PT E12							
19	Interprofessional Skills- PP E16							
20	Pharmacoeconomics- PP E17							
21	Advanced pharmaceutical technology- PT E13							
22	Medical devices- PT E14							
23	Drug Metabolism and Transport- PT E15							
24	Protein Pharmaceuticals- PT E16							

7. Matrix of Academic Standards (Program Outcomes POs) with teaching and learning methods

Domain 1: Fundamental Knowledge												
Code	Teaching and learning methods											
	Lectures	Practical	E-learning	Self-learning	Discussion	Brain storming	Presentation	Assignment	Virtual lab	Field visit	Case study	Co-operative learning
1-1-1	√	√	√	√								
1-1-2	√				√		√	√				
1-1-3		√							√	√	√	
1-1-4	√				√	√					√	
1-1-5				√	√						√	√
1-1-6			√	√			√	√				
1-1-7				√	√	√	√					

Domain 2: Professional and Ethical Practice												
Code	Teaching and learning methods											
	Lectures	Practical	E-learning	Self-learning	Discussion	Brain storming	Presentation	Assignment	Virtual lab	Field visit	Case study	Co-operative learning
2-1-1	√									√	√	√
2-1-2					√					√	√	
2-1-3				√	√	√					√	
2-2-1	√	√							√	√		
2-2-2	√							√			√	√
2-2-3	√	√							√		√	
2-2-4	√		√					√			√	
2-3-1		√							√	√	√	
2-3-2	√				√			√			√	
2-4-1	√									√	√	
2-4-2	√	√								√	√	

2-4-3					√						√	√
2-4-4	√	√							√		√	
2-5-1	√						√	√			√	
2-5-2				√	√		√	√				
2-5-3							√	√			√	√
2-6-1	√						√				√	√
2-6-2	√						√	√			√	

Domain 3: Pharmaceutical Care												
Code	Teaching and learning methods											
	Lectures	Practical	E-learning	Self-learning	Discussion	Brain storming	Presentation	Assignment	Virtual lab	Field visit	Case study	Co-operative learning
3-1-1	√	√	√								√	
3-1-2	√	√			√					√		
3-1-3	√	√							√		√	
3-1-4	√				√						√	√
3-2-1	√				√			√			√	
3-2-2	√		√				√				√	
3-2-3				√	√		√				√	
3-2-4	√							√	√		√	
3-2-5								√		√	√	√
3-2-6	√				√		√					

Domain 4: Personal Practice												
Code	Teaching and learning methods											
	Lectures	Practical	E-learning	Self-learning	Discussion	Brain storming	Presentation	Assignment	Virtual lab	Field visit	Case study	Co-operative learning
4-1-1					√		√				√	√
4-1-2				√	√	√					√	
4-1-3						√	√					√
4-2-1					√		√					√
4-2-2			√				√	√				
4-3-1				√	√			√				
4-3-2			√	√								

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

The teaching and learning approaches within this program were chosen to meet; stated learning objectives, including:

Lectures	Assignment
Practical	Virtual lab
E-learning	Field visit
Self-learning	Case study
Discussion	Co-operative learning
Brainstorming	
Presentation	

The details of Teaching and learning methods are mentioned in faculty teaching and learning Strategy.

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

Different assessment methods are used within this program including

1- Written examinations,

2- Formative exams

3- Practical assessments

4- Oral presentation.

5- Course work assessments.

The final grade of the course consists of the sum of the semesters work (15%) + practical (25%) + written (50%) + oral (10%) as shown in the study plan tables

The minimum pass rate in any course is 60% of the total grades of this course. The student will not be successful in any course unless he or she receive 30% of the final written exam score. The percentage of final scores and estimates is as shown in the following table.

Percentage	Symbol	Number of Points	Grade
95 and above	A^+	4	Excellent
90 for less than 95	A	3.8	
85 for less than 90	A^-	3.6	
82.5 for less than 85	B^+	3.4	very good
77.5 for less than 82.5	B	3.2	
75 for less than 77.5	B^-	3	
72.5 for less than 75	C^+	2.8	good
67.5 for less than 72.5	C	2.6	
65 for less than 67.5	C^-	2.4	
62.5 for less than 65	D^+	2.2	acceptable
60 for less than 62.5	D	2	
Less than 60	F	0.00	Deposit
Withdrawal - W	W	-	Withdrawal
Incomplete - I *	I*	-	Incomplete
Absent - Abs E **	Abs E**	-	Absent

- **The student's GPA and CGPA are calculated as follows:**

A- The points of each course are calculated according to the following equation: Course Points (CGP) = (Degree - 60) x0.075 + 1

B - The value of points for each course is multiplied by the number of credit hours for this course to get the number of points for each course in the semester.

C - Points are collected for all the courses in which the student scored in one semester.

D- The total points of all courses shall be divided by the total credit hours registered for the student per semester for the purpose of obtaining the semester average as follows:

- **The semester rate (GPA) =**

Total points of all courses per semester / Total credit hours registered per semester

- **The cumulative GPA is calculated as follows:**

Cumulative Grade Point Average (cGPA) =

The sum of points for all courses for all semesters / Total credit hours registered for all semesters

10. Program Key Performance Indicators (if any)

No.	Performance Indicator	Target Level	Method	Measurement
1	Student Achievement Rate	≥85% of students pass all required courses each academic year	Academic records analysis	Course pass rates, GPA reports
2	Graduate Employment Rate	≥80% employment post-graduation	Graduate tracer study	Survey of alumni and employer feedback

3	Student Satisfaction	≥80% satisfied with learning experience	Surveys at program end	Standardized satisfaction questionnaires
4	Faculty to Student Ratio	≤1:20 (as per NARS guidelines)	Academic staff records	HR records vs. enrolled students
5	Program Completion Rate	≥90% of enrolled students graduate in expected time	Cohort tracking	Analysis of student progress over time
6	Practical Training Satisfaction	≥85% satisfaction by students and preceptors	Feedback forms, exit interviews	Standardized forms for assessment
7	Licensure Exam Pass Rate	≥95% first-time pass	National exam results	Licensing authority data
8	Employer Satisfaction	≥85% satisfaction with graduate preparedness	Employer feedback survey	Standardized employer questionnaires
9	Curriculum Effectiveness	≥85% of stakeholders approve relevance of curriculum	Curriculum review workshops and feedback survey	Stakeholder feedback reports

Name & Signature
Program Coordinator

Assistant professor/ Ahmed Amin Ali

Name & Signature
Vice Dean for Education and Student Affairs

Professor/ Abdelaziz Elsayed Abdelaziz