Program Specification

(2025)

1. Basic Information

ProgramTitle (according to what is stated in the bylaw):	**Bachelor of Pharmacy (PharmD)**
Total number of credit hours/points of the program:	**174**
Number of academic years/levels (expected program duration):	**5 years + one academic year of internship**
Department (s) Participating (if any) in teaching the program:	**1- Department of Pharmacognosy (PG).** **2- Department of Pharmaceutics (PT).** **3- Department of Medicinal Chemistry (PC).** **4- Department of Analytical Chemistry (PA)** **5- Department of Biochemistry (PB)** **6- Department of Microbiology and Immunology (PM)** **7- Department of Pharmacology and Toxicology (PO)** **8- Department of Clinical Pharmacy (PP)**
Faculty/Institute:	**Faculty of Pharmacy**
University/Academy:	**Minia University**
Program majors/divisions/tracks/specialties in the final year (if any):	**--------**
Partnerships with other parties and the nature of each (if any):	**Minia University Hospitals during the academic year of internship.**
Name of the program coordinator (attach the assignment decision):	**Prof. Dr./ Khalid Mohammed Badr Eldeen**
Program Specification Approval Date:	**10/15/2019** **Updated 07/17/2025**
Council responsible for Program Specification Approval (Attach the Decision / Minutes):	**The Council of the Faculty of Pharmacy, Minia University** **Annex-1 (the Decision)**

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

1- Graduation of a distinguished pharmacist specialized in public pharmacies, pharmaceutical factories, and peer laboratories for food indicators and industries in the field of commerce, research, and universities.

2- Focus on the role of the pharmacist in providing appropriate health care to the patient inside and outside hospitals by educating and providing advice to individuals and communities to improve therapeutic results and reduce the incidence of diseases, taking into account that he exercises the profession with its responsibilities and authorities, respecting its laws and ethics, and respecting the rights of patients.

3- Prepare a pharmacist who uses evidence-based data to provide modern pharmaceutical preparations and pharmaceutical services, in addition to being proficient in effective communication, leadership, management, and entrepreneurship skills.

4- Graduating a pharmacist who works as a lifelong learner with the aim of sustainable professional development and demonstrates the ability to master performance evaluation and self-evaluation skills.

5- Increasing the competitiveness of program graduates at the regional level through study and training programs.

6- Participation in community service, environmental development, and providing a tangible economic return by rationalizing the use of medicines in hospitals.

7- Achieving quality standards in pharmaceutical education through interactive education and interest in self-learning.

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**	**4**	**2.30**
Faculty/College Requirements (if applicable)				
Program Requirements		**70**	**170**	**97.70**
Requirements of the majors/ divisions/ tracks/ specializations in the final year (if any)				
Other requirements	**Field Training**		**100**	
	Graduation Project			
	Mandatory training year		**1 year**	
	Other (to be mentioned)			
Total Compulsory Courses		**69**	**166**	**95.40**
Elective Courses		**4**	**8**	**4.60**
Total		**73**	**174**	**100**

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

Academic Level	Sem.	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
الاول	خريف	PA 101	**Pharmaceutical Analytical Chemistry I**	اجباري	تخصص	3	2	2	-
الاول	خريف	PC 101	**Pharmaceutical Organic Chemistry I**	اجباري	تخصص	3	2	2	-
الاول	خريف	PG 101	**Medicinal Plants**	اجباري	تخصص	3	2	2	-
الاول	خريف	PT 101	**Pharmacy Orientation**	اجباري	تخصص	1	1	-	-
الاول	خريف	PO 101	**Medical Terminology**	اجباري	تخصص	1	1	-	-
الاول	خريف	UR 101	**Information Technology**	اجباري	جامعة	2	1	2	-
الاول	خريف	MS 101	**Mathematics**	اجباري	تخصص	1	1	-	-
الاول	خريف	UR 102	**Human Rights and Fighting Corruption**	اجباري	جامعة	1	1	-	-

Academic Level	Sem.	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
الاول	ربيع	PA 202	**Pharmaceutical Analytical Chemistry II**	اجباري	تخصص	3	2	2	-
الاول	ربيع	PC 202	**Pharmaceutical Organic Chemistry II**	اجباري	تخصص	3	2	2	-
الاول	ربيع	PB 201	**Cell Biology**	اجباري	تخصص	2	1	2	-
الاول	ربيع	PG 202	**Pharmacognosy I**	اجباري	تخصص	3	2	2	-
الاول	ربيع	MD 201	**Anatomy and Histology**	اجباري	تخصص	3	2	2	-
الاول	ربيع	PT 202	**Physical Pharmacy**	اجباري	تخصص	3	2	2	-
الاول	ربيع	UR 203	**Psychology**	اجباري	جامعة	1	1	-	-
الثاني	خريف	PA 303	**Pharmaceutical Analytical Chemistry III**	اجباري	تخصص	2	1	2	-
الثاني	خريف	PC 303	**Pharmaceutical Organic Chemistry III**	اجباري	تخصص	3	2	2	-
الثاني	خريف	PG 303	**Pharmacognosy II**	اجباري	تخصص	3	2	2	-
الثاني	خريف	PT 303	**Pharmaceutics I**	اجباري	تخصص	3	2	2	-
الثاني	خريف	MD 302	**Physiology and Pathophysiology**	اجباري	تخصص	3	2	2	-
الثاني	خريف	PM 301	**General Microbiology and Immunology**	اجباري	تخصص	3	2	2	-
الثاني	خريف	PT 304	**Pharmaceutical Legislations and Regulatory Affairs**	اجباري	تخصص	1	1	-	-
الثاني	ربيع	PA 404	**Instrumental Analysis**	اجباري	تخصص	3	2	2	-
الثاني	ربيع	PC 404	**Pharmaceutical Organic Chemistry IV**	اجباري	تخصص	3	2	2	-
الثاني	ربيع	PG 404	**Phytochemistry I**	اجباري	تخصص	3	2	2	-
الثاني	ربيع	PT 405	**Pharmaceutics II**	اجباري	تخصص	3	2	2	-
الثاني	ربيع	PB 402	**Biochemistry I**	اجباري	تخصص	3	2	2	-
الثاني	ربيع	PM 402	**Pharmaceutical Microbiology**	اجباري	تخصص	3	2	2	-
الثالث	خريف	PC 505	**Drug Design and Metabolism**	اجباري	تخصص	2	1	2	-
الثالث	خريف	PG 505	**Phytochemistry II**	اجباري	تخصص	3	2	2	-
الثالث	خريف	PT 506	**Pharmaceutics III**	اجباري	تخصص	3	2	2	-
الثالث	خريف	PB 503	**Biochemistry II**	اجباري	تخصص	3	2	2	-
الثالث	خريف	PO 502	**Pharmacology I**	اجباري	تخصص	3	2	2	-
الثالث	خريف	PM 503	**Medical Microbiology**	اجباري	تخصص	3	2	2	-

Academic Level	Sem.	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
الثالث	خريف	PO 503	**Biostatistics**	اجباري	تخصص	1	1	-	-
الثالث	ربيع	PC 606	**Medicinal Chemistry**	اجباري	تخصص	3	2	2	-
الثالث	ربيع	PO 604	**Pharmacology II**	اجباري	تخصص	3	2	2	-
الثالث	ربيع	PG 606	**Applied and Forensic Pharmacognosy**	اجباري	تخصص	3	2	2	-
الثالث	ربيع	PT 607	**Biopharmaceutics and Pharmacokinetics**	اجباري	تخصص	3	2	2	-
الثالث	ربيع	PT 608	**Pharmaceutics IV**	اجباري	تخصص	3	2	2	-
الثالث	ربيع	MD 603	**Pathology**	اجباري	تخصص	2	1	2	-
الثالث	ربيع	NP 601	**Communication Skills**	اجباري	تخصص	1	1	-	-
الرابع	خريف	PC 707	**Medicinal Chemistry II**	اجباري	تخصص	3	2	2	-
الرابع	خريف	PO 705	**Pharmacology III**	اجباري	تخصص	2	1	2	-
الرابع	خريف	PM 704	**Parasitology and Virology**	اجباري	تخصص	3	2	2	-
الرابع	خريف	PB 704	**Clinical Biochemistry**	اجباري	تخصص	3	2	2	-
الرابع	خريف	PT 709	**Pharmaceutical TechnologyI**	اجباري	تخصص	3	2	2	-
الرابع	خريف	PP 701	**Drug Information**	اجباري	تخصص	1	1	-	-
الرابع	خريف	EC 701	**Elective Course I**	اختياري	تخصص	2	1	2	-
الرابع	ربيع	PC 808	**Medicinal Chemistry III**	اجباري	تخصص	3	2	2	-
الرابع	ربيع	PG 807	**Phytotherapy and Aromatherapy**	اجباري	تخصص	3	2	2	-
الرابع	ربيع	PO 806	**Basic and Clinical Toxicology**	اجباري	تخصص	3	2	2	-
الرابع	ربيع	PT 810	**Pharmaceutical Technology II**	اجباري	تخصص	3	2	2	-
الرابع	ربيع	PP 802	**Community Pharmacy Practice**	اجباري	تخصص	3	2	2	-
الرابع	ربيع	NP 802	**Scientific Writing**	اجباري	تخصص	1	1	-	-
الرابع	ربيع	EC 802	**Elective Course II**	اختياري	تخصص	2	1	2	-
الخامس	خريف	PP 903	**Hospital Pharmacy**	اجباري	تخصص	2	1	2	
الخامس	خريف	PM 905	**Pharmaceutical Biotechnology**	اجباري	تخصص	3	2	2	-
الخامس	خريف	PP 904	**Clinical Pharmacy I**	اجباري	تخصص	3	2	2	-
الخامس	خريف	PP 905	**Clinical Pharmacokinetics**	اجباري	تخصص	3	2	2	-
الخامس	خريف	PM 906	**Public Health**	اجباري	تخصص	2	2	-	-

Academic Level	Sem.	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
الخامس	خريف	NP 903	**Marketing and Pharmacoeconomics**	اجباري	تخصص	2	2	-	-
الخامس	خريف	NP 904	**Entrepreneurship**	اجباري	تخصص	1	1	-	-
الخامس	خريف	EC 903	**Elective Course III**	اختياري	تخصص	2	1	2	-
الخامس	ربيع	PT 011	**Good Manufacturing Practice**	اجباري	تخصص	2	1	2	-
الخامس	ربيع	PA 005	**Quality Control of Pharmaceuticals**	اجباري	تخصص	3	2	2	-
الخامس	ربيع	PT 012	**Advanced Drug Delivery Systems**	اجباري	تخصص	2	2	-	-
الخامس	ربيع	PP 006	**Clinical Pharmacy II and Pharmacotherapeutics**	اجباري	تخصص	2	1	2	-
الخامس	ربيع	PO 007	**First Aid**	اجباري	تخصص	1	1	-	-
الخامس	ربيع	PO 008	**Drug Interaction**	اجباري	تخصص	1	1	-	-
الخامس	ربيع	PP 007	**Clinical Research, Pharmacoepidemiology and Pharmacovigilance**	اجباري	تخصص	2	1	2	-
الخامس	ربيع	PP 008	**Professional Ethics**	اجباري	تخصص	1	1	-	-
الخامس	ربيع	EC 004	**Elective Course IV**	اختياري	تخصص	2	1	2	-

Elective Courses

No.	Course title	Course Code
1	**Quality Assurances and GMP**	**PT E13**
2	**Applied Industrial Pharmacy**	**PT E14**
3	**Cosmetic Preparations**	**PT E15**
4	**Complementary and Alternative Medicine**	**PG E08**
5	**Marine Natural Products**	**PG E09**
6	**Chromatography and Separation Techniques**	**PG E10**
7	**Drug Targets**	**PC E09**
8	**Biological Standardization**	**PO E09**
9	**Veterinary Pharmacology**	**PO E10**
10	**Advanced Spectroscopic and Chromatographic Analytical Techniques**	**PA E06**
11	**Gene Regulation and Epigenetics**	**PM E07**
12	**Antimicrobial Stewardship**	**PM E08**
13	**Infection Control**	**PM E09**
14	**Bioinformatics**	**PM E10**
15	**Clinical Nutrition**	**PB E05**
16	**Pharmaceutical Care**	**PP E09**

4- Academic Standards

- **Adopted Academic Standards (NARS/ARS): ARS**
  *** When adopting ARS: <u>The matrix of the academic reference standards (ARS) with the national academic reference standards (NARS) must be attached</u> (Attachment 10)**

- **Date of Adoption of Standards in the governing Council: 8/15/2023**
  *** Decision/Minutes of the governing Council to be attached**

Academic Reference Standards of Bachelor of Pharmacy (PharmD) strongly matched with the second edition of the National Academic Reference Standards for Pharmacy education, published by the National Authority for Quality Assurance and Accreditation of Education (NAQAAE) in April 2017

After successfully completing the program, graduates will be proficient in the following key domains:

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:

Apply and integrate core knowledge and skills in the evolving domains of basic biomedical, pharmaceutical, clinical, social-behavioral, and administrative sciences to evaluate and manufacture products, address therapeutic challenges within communities, advance human health, and deliver patient-centered care.

This competency will be developed via the following key elements:

<u>KEY ELEMENTS</u>

1-1-1- Exhibit a strong understanding and appreciation of the principles of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.

1-1-2- Employ accurate pharmaceutical and medical terminology, abbreviations, and symbols in pharmacy practice and recall the scientific names of drugs.

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1-1-3- Apply the principles of fundamental sciences to manage, characterize, isolate, extract, develop, formulate, analyze, and ensure the quality of synthetic and natural pharmaceutical raw materials, finished products, and biological macromolecules.
1-1-4- Apply fundamental scientific principles to explain how drugs work and evaluate their suitability, efficacy, and safety for individuals and populations.
1-1-5- Apply fundamental scientific principles to address and resolve therapeutic challenges.
1-1-6- Integrate evidence from scientific literature to inform and optimize professional decision-making.
1-1-7- Conduct rigorous evidence reviews to identify and assess emerging trends and innovations relevant to the pharmaceutical industry and patient care.
1-1-8- Employ health informatics to enhance the quality of health and nutritional care, optimize resource management, improve patient safety, and deepen the understanding of metabolic disorders.
1-1-9- Conduct accurate pharmaceutical, compounding, and patient-specific calculations, encompassing pharmacokinetic and other therapeutic considerations.

Domain 2: Professional and Ethical Practice

2-1 Competency

Collaborate effectively within an inter-professional healthcare team to enhance the quality of life for individuals and communities, while upholding patient rights.

This competency will be developed via the following key elements:

Key Elements:

2-1-1- Fulfill responsibilities and exercise authority within the legal and professional framework, respecting the roles and contributions of all members of the healthcare team.
2-1-2- Integrate ethical principles outlined in professional codes of conduct to safeguard patient rights, respect human dignity, and ensure equitable healthcare delivery for diverse populations.
2-1-3- Understand personal and professional limitations and accept support from other healthcare professionals.
2-1-4- Maintain professional boundaries and collaborate with other healthcare providers through consultations and referrals.
2-1-5- Embrace the principle that ethical pharmacy practice values patient care above profit generation, while maintaining a sound business model.

2-2- Competency

Contribute to the advancement of the pharmaceutical industry by participating in the standardization of materials, the development and manufacture of products, and the optimization of the pharmaceutical supply chain.

This competency will be developed via the following key elements:

Key Elements:

2-2-1- Engage in the scientific processes of isolating, designing, identifying, synthesizing, purifying, analyzing, and standardizing synthetic and natural pharmaceutical materials.

2-2-2- Integrate quality management principles throughout the pharmaceutical lifecycle, from development to distribution, while proactively addressing potential incompatibilities.
2-2-3- Demonstrate a comprehensive understanding of various laboratory tools and instruments, and select appropriate techniques for the synthesis, analysis, and production of pharmaceutical materials.
2-2-4- Integrate the principles of pharmaceutical calculations, biostatistical analysis, bioinformatics, pharmacokinetics, and biopharmaceutics to optimize drug delivery systems, adjust dosages, conduct bioequivalence studies, and enhance overall pharmacy practice.
2-2-5- Demonstrate proficiency in the preparation and compounding of non-sterile and sterile products, and other extemporaneous formulations, according to recognized guidelines and standards of practice.

2-3- Competency

Ensure the safe and effective handling and disposal of biologicals and synthetic/natural pharmaceutical materials/products in strict compliance with all relevant laws and regulations.
This competency will be developed via the following key elements:
Key Elements:
2-3-1- Demonstrate safe and responsible handling, proper identification, and appropriate disposal of biologicals, synthetic/natural materials, biotechnology-based products, radiolabeled compounds, and other materials used in the pharmaceutical field.
2-3-2-Ensure all handling and disposal activities related to biological and pharmaceutical materials/products are conducted in accordance with ethical principles, relevant laws and regulations, and established safety guidelines.
2-3-3- Establish protocols for the safe and compliant return or disposal of recalled, expired, and unusable products.

2-4- Competency

Collaborate effectively in emergency situations, including xenobiotic poisoning, by actively sharing professional decisions and appropriate life-saving actions. Demonstrate proficiency in forensic investigations.
This competency will be developed via the following key elements:
Key Elements:
2-4-1- Prioritize safe handling and use of poisons to prevent harm to individuals and communities.
2-4-2- Understand and be able to apply appropriate first aid measures in life-threatening situations.
2-4-3- Address and resolve identified medicine-related and pharmaceutical care issues.
2-4-4- Evaluate the toxicity of chemicals and various xenobiotics and detect poisons in biological samples.

2-4-5- Demonstrate the ability to recognize medical or health concerns that fall outside of one's professional scope and take appropriate action, such as referring patients to other qualified healthcare providers.
2-4-6- Demonstrate knowledge of physical assessment and nutritional assessment principles essential for patient care. Demonstrate knowledge of physical assessment and nutritional assessment principles essential for patient care.

2-5- Competency

Participate in pharmaceutical research studies and clinical trials to support drug approval.
This competency will be developed via the following key elements:
Key Elements:
2-5-1- Meet all regulatory requirements for the authorization of medicinal products, including quality, safety, and efficacy standards.
2-5-2- Exhibit the ability to effectively retrieve, interpret, and critically appraise evidence-based information essential for the advancement of pharmacy practice.
2-5-3- Participate in the planning and execution of research studies using appropriate methodologies.

2-6- Competency

Conduct pharmacoeconomic analyses and cultivate skills in promotion, sales, marketing, and business administration.
This competency will be developed via the following key elements:
Key Elements:
2-6-1- Employ sound business and management principles to optimize the allocation of financial and human resources in pharmacy field.
2-6-2- Apply principles of drug promotion, sales, marketing, accounting, and Pharmacoeconomics.

Domain 3: Pharmaceutical Care

3-1- Competency

Collaborate in improving healthcare services by applying knowledge of body functions and utilizing evidence-based data.
This competency will be developed via the following key elements:
Key Elements:
3-1-1- Integrate knowledge of body function and genomics into the management of various diseases.
3-1-2- Utilize public health and microbiological principles to select and evaluate effective infection control measures.
3-1-3- Control microbial growth and conduct laboratory tests for the diagnosis of infections.

3-1-4- Correlate etiology, epidemiology, pathophysiology, laboratory diagnosis, clinical manifestations, and pharmacotherapy of infectious diseases.

3-2- Competency

Deliver comprehensive patient and community education services to promote the safe and effective utilization of medications and medical devices.

This competency will be developed via the following key elements:

Key Elements:

3-2-1-Integrate a comprehensive understanding of the pharmacological properties of drugs, including their mechanisms of action, therapeutic uses, dosage regimens, contraindications, adverse drug reactions, and potential drug interactions.

3-2-2- Utilize clinical pharmacology and pharmacovigilance principles to optimize medication and medical device use.

3-2-3- Deliver evidence-based information on the safe use of complementary therapies, including phytotherapy, aromatherapy, and nutraceuticals.

3-2-4- Disseminate information on the toxic profiles of drugs and other xenobiotics, including sources, identification, symptoms, and management strategies.

3-2-5- Promote the safe and proper use of medications, including OTC drugs and medical devices, through education and counseling of patients, other healthcare professionals, and the community.

3-2-6- Promote public awareness campaigns to prevent the social and health hazards of drug misuse and abuse.

3-2-7- Recognize and effectively manage medication incidents and adverse drug events to minimize harm and prevent recurrence.

Domain 4: Personal Practice

4-1- Competency

Demonstrate leadership, time management, critical thinking, problem-solving, independent and teamwork, creativity, and entrepreneurial skills.

This competency will be developed via the following key elements:

Key Elements:

4-1-1- Demonstrate a strong commitment to teamwork, including responsibility for team performance, the conduct of peer evaluations, and the effective management of time and resources.

4-1-2- Exhibit the ability to effectively retrieve, analyze, and synthesize information, identify and solve complex problems, and function both autonomously and as a productive member of a collaborative team.

4-1-3- Demonstrate innovative thinking and entrepreneurial skills by participating in a simulated entrepreneurial activity.

4-2- Competency

Communicate effectively with individuals and communities using verbal, nonverbal, and written skills.

This competency will be developed via the following key elements:
Key Elements:
4-2-1- Demonstrate professional communication skills, including verbal, nonverbal, and written communication, with healthcare teams, patients, and communities.
4-2-2- Develop and demonstrate effective presentation skills using contemporary technologies and media.

4-3- Competency

Demonstrate self-awareness and engage in continuous professional development.
This competency will be developed via the following key elements:
Key Elements:
4-3-1- Utilize self-assessment for continuous reflection and improvement of professional and personal competencies.
4-3-2- Demonstrate a commitment to lifelong learning through independent study and continuous professional development.

5- Teaching and Learning strategies/methods to achieve Program Outcomes:

1. Lecture.
2. Self-learning.
3. Computer aided learning.
4. Problem-based learning.
5. Case study.
6. Presentation.
7. Practical work and tutorials.
8. Hybrid learning.
9. Collaborative learning.
10. Assignments and activities.
11. Research projects.
12. Simulation based learning.

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

1- Formative assessment include.

- Case Study.
- Quiz.
- Problem solving.

Formative assessments are used to recognize student's areas of strength and weakness and focus on those that require improvement. Formative assessments are implemented in all courses and training sessions and usually have no point value.

2- Summative assessment

a. Written examination.
b. Practical assessments.
c. Oral presentation.
d. Periodical (Mid-term) examination.

- The final grade of the course consists of the sum of the semester work + practical (if present) + written + oral (if present) examination as shown in the study plan tables.
- The minimum pass rate in any course is 60% of the total grades of this course except for the university requirements (minimum pass rate in any course is 50% of the total grades).
- The student will not pass any course unless he or she gets 30% of the final written exam. score.
- Semesters work exam is held by the end of the 7th week of the semester.
- Practical exams are held by the end of the 13th week and can be modified according to the academic year plan of the higher education ministry.
- Final written and oral exams are held by the start of the14th week of the semester and can be modified according to the academic year plan of the higher education ministry.
- Each course is assigned a total of 100 marks.
- Performance of a student is measured by the **Grade Point Average (GPA)** value he/she scores in an individual course.

The percentage of final scores and estimates is as shown in the following table.

Evaluation System

Percentage	Number of Points	Symbol	Grade
95 and above	**4.00**	**A^{+}**	**Excellent**
90 for less than 95	**3.85**	**A**	
85 for less than 90	**3.70**	**A^{-}**	
82.5 for less than 85	**3.30**	**B^{+}**	**Very good**
77.5 for less than 82.5	**3.00**	**B**	
75 for less than 77.5	**2.70**	**B^{-}**	
72.5 for less than 75	**2.30**	**C^{+}**	**Good**
67.5 for less than 72.5	**2.00**	**C**	
65 for less than 67.5	**1.70**	**C^{-}**	
62.5 for less than 65	**1.30**	**D^{+}**	**Acceptable**
60 for less than 62.5	**1.00**	**D**	
50	**1.00**	**D**	**Acceptable for UR**
Less than 60 or (50 for UR)	**0.00**	**F**	**Fail**
Withdrawal	**-**	**W**	**Withdrawal**
Incomplete	**-**	**I***	**Incomplete**
Absent with excuse	**-**	**Abs E****	**Absent with excuse**
Absent	**0.00**	**Abs *****	**Fail**

The percentage of final scores and estimates is as shown in the following table.

New Evaluation System (start academic year 2024/2025)

Percentage	Number of Points	Symbol	Grade
95 and above	4.00	A^+	Excellent
90 for less than 95	3.80	A	
85 for less than 90	3.60	A^-	
82.5 for less than 85	3.40	B^+	Very good
77.5 for less than 82.5	3.20	B	
75 for less than 77.5	3.00	B^-	
72.5 for less than 75	2.80	C^+	Good
67.5 for less than 72.5	2.60	C	
65 for less than 67.5	2.40	C^-	
62.5 for less than 65	2.20	D^+	Acceptable
60 for less than 62.5	2.00	D	
50	2.00	D	Acceptable for UR
Less than 60	0.00	F	Fail
Withdrawal	-	W	Withdrawal
Incomplete	-	I*	Incomplete
Absent with excuse	-	Abs E**	Absent with excuse
Absent	0.00	Abs ***	Fail

I* :The student receives this symbol if the attendance percentage is satisfactory, and he/she is unable to take the final written and oral exam (if any) for one or more courses in the same semester for compelling reasons accepted by the faculty council. He/she must take the final written and oral exam (if any) only no later than the 2nd week of the following semester while maintaining the grade.

Abs E:** The student receives this symbol if he or she is unable to take the final written and oral exam (if any) on the date mentioned in the previous paragraph (I) due to the compelling reason not disappearing. The student must register for this course when it is offered again and study it in full while maintaining the grade.

Abs*: If the student is absent from taking the exam without an excuse, it is accepted by the College Council, and the student must register for this course when it is offered again and study it in full.

- There are other evaluation symbols that are not equivalent to points - which are used in some graduation requirements, which are:

S: Satisfactory **U**: Unsatisfactory

T: Grades obtained by a student transferred from another college of pharmacy.

The student's GPA and cGPA are calculated as follows:

A - 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.

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

C- The total points of all courses are divided by the total credit hours registered for the student per semester for the purpose of obtaining the semester rate as follows:

Semester rate (GPA) = Total points of all courses per semester
Total credit hours registered per semester.

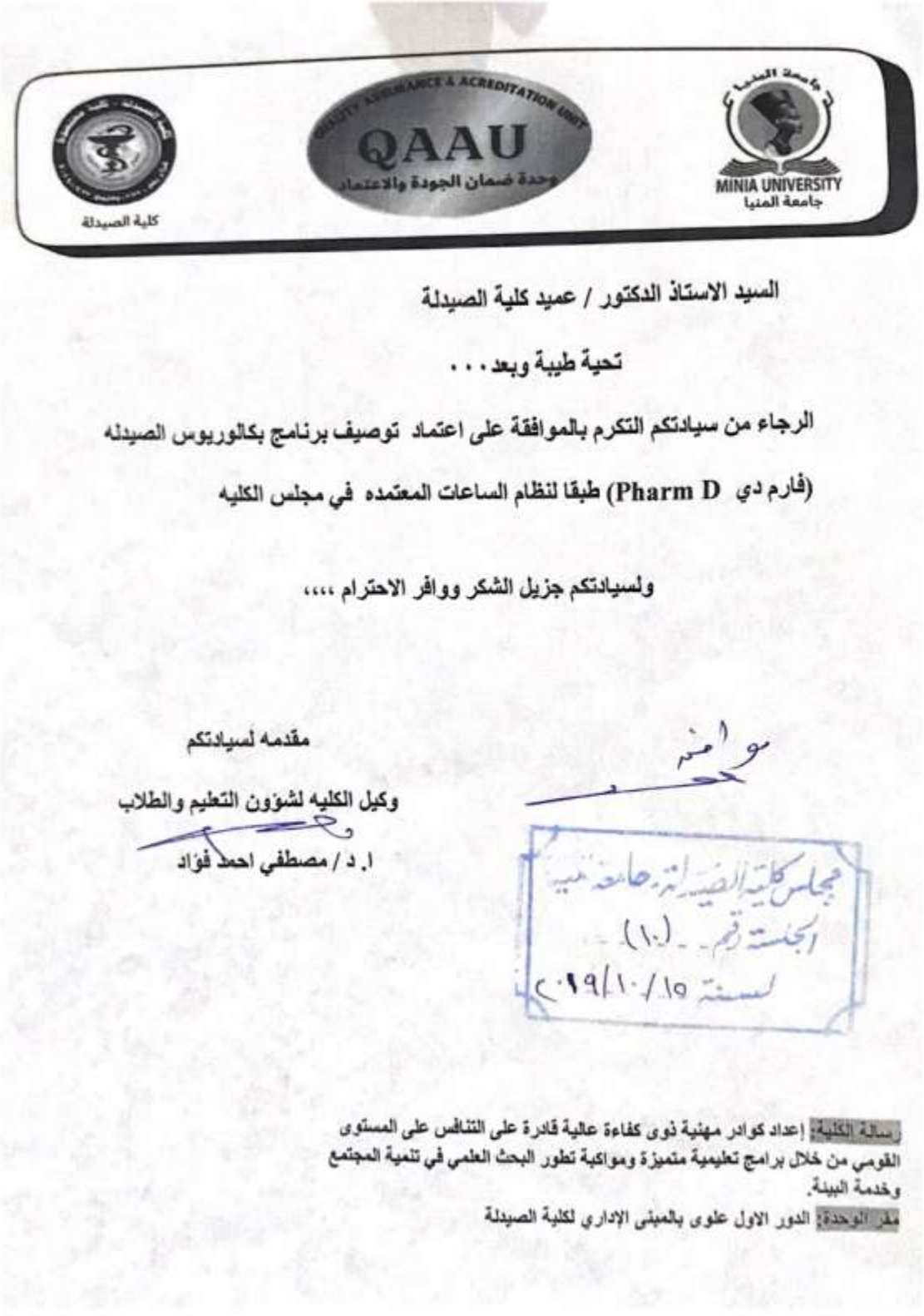
The cumulative Grade Point Average (cGPA) is calculated as follows:

Cumulative GPA (cGPA) = The sum of points for all courses for all semesters
Total credit hours registered for all semesters.

Several Annexes (Attachments) are involved:

Attachment Title	Attachment #
Faculty's council's approval of program specification	**1**
Faculty's council approval of NARS as references for program's Academic References Standards	**2**
Logbook Compulsory Training Program (Internship) for Pharmacists (hyperlink)	**3**
Coherence between Pharm D Program Graduates Attributes and program aims.	**4**
Coherence between PharmD program Graduates Attributes and faculty mission and main strategic goals.	**5**
Coherence between Competences and faculty mission and main strategic goals.	**6**
Coherence between Program Aims to NARS Attributes of the Pharmacy Graduates.	**7**
Coherence between of NARS Attributes of the Pharmacy Graduates and PharmD graduate attributes.	**8**
Coherence between NARS Attributes of the Pharmacy Graduates and mission and main strategic goals.	**9**
Coherence between NARS key elements and the PharmD-Pharmacy Program key elements.	**10**
Matrix of Academic Standards (Program key elements) with Courses.	**11**
Matrix of the coherence between learning and teaching methods and the Program Key-Elements.	**12**
Matrix of the coherence between assessment methods and the Program Key-elements.	**13**

Attachment-1 (Faculty council's approval of program specification)



كلية الصيدلة

QAAU
وحدة ضمان الجودة والاعتماد

MINIA UNIVERSITY
جامعة المنيا

السيد الاستاذ الدكتور / عميد كلية الصيدلة

تحية طيبة وبعد . . .

الرجاء من سيادتكم التكرم بالموافقة على اعتماد توصيف برنامج بكالوريوس الصيدله

(فارم دي Pharm D) طبقا لنظام الساعات المعتمده في مجلس الكليه

ولسيادتكم جزيل الشكر ووافر الاحترام ،،،،

مقدمه لسيادتكم

وكيل الكليه لشؤون التعليم والطلاب

ا. د / مصطفي احمد فؤاد

مجلس كلية الصيدلة جامعة المنيا
الجلسة رقم (١٠)
لسنة ٢٠١٩/١٠/١٥

رسالة الكلية: إعداد كوادر مهنية ذوى كفاءة عالية قادرة على التنافس على المستوى القومي من خلال برامج تعليمية متميزة ومواكبة تطور البحث العلمي في تنمية المجتمع وخدمة البيئة.

مقر الوحدة: الدور الاول علوى بالمبنى الإداري لكلية الصيدلة

Follow Attachment-1 (Faculty council's approval of program specification updates)

QUALITY ASSURANCE & ACREDITATION UNIT
QAAU
وحدة ضمان الجودة والاعتماد
كلية الصيدلة
MINIA UNIVERSITY
جامعة المنيا

السيد الاستاذ الدكتور / عميد كلية الصيدلة

تحية طيبة وبعد ...

الرجاء من سيادتكم التكرم بالموافقة على تحديث توصيف برنامج بكالوريوس الصيدلة (فارم دي- Pharm D)

على النماذج المحدثة للهيئة القومية لضمان جودة التعليم والاعتماد وبناء على موافقة مجلس الكلية ومجلس الجامعة و القرار الوزاري

بشأن تعديل حساب النقاط بالبرنامج ، وبناء على كتيب سنة التدريب الإلزامي الصادر من اللجنة العليا للإشراف على التدريب

الاجباري (الامتياز) للصيادلة .

ولسيادتكم جزيل الشكر ووافر الاحترام ....

مقدمه لسيادتكم

المدير التنفيذي لوحدة ضمان الجودة والاعتماد

د / ايمان ذكرى عطية

عرض مجلس الكلية

مجلس كلية الصيدلة - جامعة المنيا
الجلسة رقم (٧)
لسنة ٢٠٢٥/٧/١٧

سالة الكلية: إعداد كوادر مهنية ذوى كفاءة عالية قادرة على التنافس على المستوى القومي من خلال برامج تعليمية متميزة
واكبة تطور البحث العلمي في تنمية المجتمع وخدمة البيئة.
ر الوحدة: الدور الاول علوى بالمبنى الإداري لكلية الصيدلة

Attachment-2: Faculty council's approval of NARS as references for program's Academic Refences Standards

السيد الأستاذ الدكتور / عميد الكلية
تحية طيبة ... وبعد

الرجاء التكرم بالموافقة على اعتماد المعايير الأكاديمية القومية (NARS) الخاصة بقطاع الصيدلة من مجلس الكلية كمعايير أكاديمية مرجعية للكلية.

(مرفق المعايير) .

وتفضلوا بقبول وافر التحية ،
مقدمة لسيادتكم

المدير التنفيذي لوحدة ضمان الجودة والاعتماد
أ.د/ أحمد عبد العظيم مهدي

٢٠٢٢/٨/٢٨

القرار: الموافقة

٢٠٢٢/٨/١٥

رسالة الكلية: إعداد كوادر مهنية ذوى كفاءة عالية قادرة على التنافس على المستوى القومي من خلال برامج تعليمية متميزة ومواكبة تطور البحث العلمي في تنمية المجتمع وخدمة البيئة.
مقر الوحدة: الدور الاول علوى بالمبنى الإداري لكلية الصيدلة

Attachment-3: Logbook Compulsory Training Program (Internship) for Pharmacists (hyperlink)

Updated Final Log Book_Higher Committe 22-8-2024.pdf

Attachment 4

Coherence between Pharm D Program Graduates Attributes and program aims.

Program Aims	Pharm D Program Graduates Attributes													
	2.1. Collaborate with individuals and communities to achieve optimal health outcomes through education, counseling, and illness prevention.	2.2. Prioritize patient rights and deliver care responsibly and ethically within the scope of legal and professional obligations.	2.3. Employ evidence-based practices to deliver high-quality pharmaceutical care and contemporary medications to patients.	2.4. Honor the rights of the patients.	2.5. Use integrated evidence from pharmacy and medicine to ensure the safe, effective, and appropriate use of medications for patients.	2.6. Implement good laboratory practice (GLP) and good manufacturing practice (GMP) and conduct diverse analytical methodologies to ensure quality control for pharmaceuticals, natural products, and raw materials.	2.7. Provide efficient healthcare by utilizing evidence-based drug data, clinical information, and interpreting objective information to assess the appropriateness, effectiveness, and safety of medications.	2.8. Contribute expertise in the planning and conduct of research, employing appropriate scientific methodologies.	2.9. Sharing in the decision-making process regarding patient care.	2.10. Cultivate strong presentation, marketing, mathematical, statistical, information technology, and entrepreneurial abilities.	2.11. Exhibit proficiency in communication, leadership, business administration, and entrepreneurial skills.	2.12. Demonstrate a commitment to lifelong learning for professional improvement, including the ability to conduct self-assessment and performance appraisals for personal and professional development.	2.13. Display the ability to conduct performance evaluations and engage in	2.14. Participate in community service and initiatives, including pharmacovigilance, and contribute meaningfully to environmental enhancement.
1- Graduation of a distinguished pharmacist specialized in public pharmacies, pharmaceutical factories, and peer laboratories for food indicators and industries in the field of commerce, research, and universities.	●							●						●
2- Focus on the role of the pharmacist in providing appropriate health care to the patient inside and outside	●	●		●			●		●					●

hospitals by educating and providing advice to individuals and communities to improve therapeutic results and reduce the incidence of diseases, taking into account that he exercises the profession with its responsibilities and authorities, respecting its laws and ethics, and respecting the rights of patients.														
3- Prepare a pharmacist who uses evidence-based data to provide modern pharmaceutical preparations and pharmaceutical services, in addition to being proficient in effective communication, leadership, management, and entrepreneurship skills.			●		●					●	●			
4- Graduating a pharmacist who works as a lifelong learner with the aim of sustainable professional development and demonstrates the ability to master performance												●	●	

evaluation and self-evaluation skills.														
5- Increasing the competitiveness of program graduates at the regional level through study and training programs.					●		●			●				
6- Participation in community service, environmental development, and providing a tangible economic return by rationalizing the use of medicines in hospitals.	●								●					●
7- Achieving quality standards in pharmaceutical education through interactive education and interest in self-learning.						●				●	●	●	●	

Attachment 5

Coherence between PharmD program Graduates Attributes and faculty mission and main strategic goals

PharmD Program Graduates Attributes	Mission				Main Strategic Goals			
	Preparing pharmacists who possess professional ethics and are qualified with the latest pharmaceutical concepts and therapeutic care enable them to contribute to the development of pharmaceutical industries.	Raise the efficiency of the pharmaceutical care system at the local and regional levels in hospitals and private pharmacies by providing pharmaceutical services at a professionally skilled level in public and private pharmacies, pharmaceutical factories and companies, drug control and food analysis laboratories.	working in the field of media and pharmaceutical marketing.	Actively participating in scientific research through research centers and universities to serve the community.	Developing of institutional capacity	Developing the community service and environmental development sector	Developing the teaching and learning system for the undergraduate and postgraduate levels	Excellence in scientific research
2.1. Collaborate with individuals and communities to achieve optimal health outcomes through education, counseling, and illness prevention.		●			●			
2.2. Prioritize patient rights and deliver care responsibly and ethically within the scope of legal and professional obligations.		●				●		
2.3. Employ evidence-based practices to deliver high-quality pharmaceutical care and contemporary medications to patients.		●					●	
2.4. Honor the rights of the patients.						●		
2.5. Use integrated evidence from pharmacy and medicine to ensure the safe, effective, and appropriate use of medications for patients.		●					●	
2.6. Implement good laboratory practice (GLP) and good manufacturing practice (GMP), and conduct diverse analytical methodologies to ensure quality control for pharmaceuticals, natural products, and raw materials.	●						●	

2.7. Provide efficient healthcare by utilizing evidence-based drug data, clinical information, and interpreting objective information to assess the appropriateness, effectiveness, and safety of medications.	●	●				●	●	
2.8. Contribute expertise in the planning and conduct of research, employing appropriate scientific methodologies.				●				●
2.9. Work effectively as a member of an inter-professional healthcare team, sharing in the decision-making process regarding patient care.	●							
2.10. Cultivate strong presentation, marketing, mathematical, statistical, information technology, and entrepreneurial abilities.	●	●			●		●	
2.11. Exhibit proficiency in communication, leadership, business administration, and entrepreneurial skills.	●	●	●				●	
2.12. Demonstrate a commitment to lifelong learning for professional improvement, including the ability to conduct self-assessment and performance appraisals for personal and professional development.	●	●			●		●	
2.13. Display the ability to conduct performance evaluations and engage in self-reflection.	●	●						
2.14. Participate in community service and initiatives, including pharmacovigilance, and contribute meaningfully to environmental enhancement.		●		●	●	●		

Attachment 6

Coherence between Competences and faculty mission and main strategic goals

Competencies	Mission				Main Strategic Goals			
	Preparing pharmacists who possess professional ethics and are qualified with the latest pharmaceutical concepts and therapeutic care enables them to contribute to the development of pharmaceutical industries.	Raise the efficiency of the pharmaceutical care system at the local and regional levels in hospitals and private pharmacies by providing pharmaceutical services at a professionally skilled level in public and private pharmacies, pharmaceutical factories and companies, drug control and food analysis laboratories.	working in the field of media and pharmaceutical marketing.	Actively participating in scientific research through research centers and universities to serve the community.	Developing of institutional capacity	Developing the community service and environmental development sector	Developing the teaching and learning system for the undergraduate and postgraduate levels	Excellence in scientific research
1-1- Competency: **Apply and integrate core knowledge and skills in the evolving domains of basic biomedical, pharmaceutical, clinical, social-behavioral, and administrative sciences to evaluate and manufacture products, address therapeutic challenges within communities, advance human health, and deliver patient-centered care.**	●	●	●	●	●	●	●	
2-1 Competency **Collaborate effectively within an inter-professional healthcare team to enhance the quality of life for individuals and communities, while upholding patient rights.**	●	●			●	●	●	
2-2- Competency **Contribute to the advancement of the pharmaceutical industry by participating in the standardization of materials, the development and manufacture of products, and the optimization of the pharmaceutical supply chain.**	●			●	●			●
2-3- Competency **Ensure the safe and effective handling and disposal of biologicals and synthetic/natural pharmaceutical**	●				●		●	

materials/products in strict compliance with all relevant laws and regulations. **2-4- Competency** **Collaborate effectively in emergency situations, including xenobiotic poisoning, by actively sharing professional decisions and appropriate life-saving actions. Demonstrate proficiency in forensic investigations.**								
2-5- Competency **Participate in pharmaceutical research studies and clinical trials to support drug approval.**	●				●	●		
2-6- Competency **Conduct pharmacoeconomic analyses and cultivate skills in promotion, sales, marketing, and business administration.**	●			●	●			●
3-1- Competency **Collaborate in improving healthcare services by applying knowledge of body functions and utilizing evidence-based data.**	●		●	●			●	
3-2- Competency **Deliver comprehensive patient and community education services to promote the safe and effective utilization of medications and medical devices.**	●	●			●		●	
4-1- Competency **Demonstrate leadership, time management, critical thinking, problem-solving, independent and teamwork, creativity, and entrepreneurial skills.**	●	●	●		●	●		
4-2- Competency **Communicate effectively with individuals and communities using verbal, nonverbal, and written skills.**	●	●			●		●	
4-3- Competency **Demonstrate self-awareness and engage in continuous professional development.**	●	●	●			●		

Attachment 7

Coherence between Program Aims to NARS Attributes of the Pharmacy Graduates

Program Aims	NARS Attributes of the Pharmacy Graduates								
	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 in 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.
1= Graduation of a distinguished pharmacist specialized in specialized public pharmacies, pharmaceutical factories, and peer laboratories for food indicators and industries in the field of commerce, research, and universities.	●	●	●	●	●	●	●		
2- Focus on the role of the pharmacist in providing appropriate health care to the patient inside and outside hospitals by educating and providing advice to individuals and communities to improve therapeutic results and reduce the incidence of diseases, taking into account that he exercises the profession with its responsibilities and authorities, respecting its laws and ethics, and respecting the rights of patients.	●	●	●	●	●		●		
3- Prepare a pharmacist who uses evidence-based data to provide modern pharmaceutical preparations and pharmaceutical services, in addition to being proficient in	●	●	●	●	●	●	●	●	

effective communication, leadership, management, and entrepreneurship skills.									
4- Graduating a pharmacist who works as a lifelong learner with the aim of sustainable professional development and demonstrates the ability to master performance evaluation and self-evaluation skills.	●	●		●		●	●		●
5- Increasing the competitiveness of program graduates at the regional level through study and training programs.				●	●		●		
6- Participation in community service, environmental development, and providing a tangible economic return by rationalizing the use of medicines in hospitals.	●	●		●					
7- Achieving quality standards in pharmaceutical education through interactive education and interest in self-learning.				●	●				

Attachment 8

Coherence between of NARS Attributes of the Pharmacy Graduates and PharmD graduate attributes.

No.	NARS Attributes of the Pharmacy Graduates		No.	PharmD Program graduate attributes
1	Educate and counsel individuals and communities to participate in optimizing therapeutic outcomes and minimizing the incidence of illness of individuals and populations.		1	Collaborate with individuals and communities to achieve optimal health outcomes through education, counseling, and illness prevention.
			2	Prioritize patient rights and deliver care responsibly and ethically within the scope of legal and professional obligations.
2	Practice and perform responsibilities and authorities legally, professionally, and ethically respecting patients' rights.		3	Employ evidence-based practices to deliver high-quality pharmaceutical care and contemporary medications to patients.
			4	Honor the rights of the patients.
3	Utilize evidence-based data to deliver contemporary pharmaceutical products and pharmacy services.		5	Use integrated evidence from pharmacy and medicine to ensure the safe, effective, and appropriate use of medications for patients.
4	Assure the quality of pharmaceutical materials and products.		6	Implement good laboratory practice (GLP) and good manufacturing practice (GMP), and conduct diverse analytical methodologies to ensure quality control for pharmaceuticals, natural products, and raw materials.
5	Apply integrated evidence-based pharmaceutical and clinical information in assessing the appropriateness, effectiveness, and safety of medications.		7	Provide efficient healthcare by utilizing evidence-based drug data, clinical information, and interpreting objective information to assess the appropriateness, effectiveness, and safety of medications.

6	Contribute effectively in planning and conducting research using appropriate methodologies.		**8**	Contribute expertise in the planning and conduct of research, employing appropriate scientific methodologies.
7	Work collaboratively and share therapeutic decision-making as a member of an inter-professional health care team.		**9**	Work effectively as a member of an inter-professional healthcare team, sharing in the decision-making process regarding patient care.
8	Demonstrate effective communication, leadership, business administration, and entrepreneurial skills.		**10**	Cultivate strong presentation, marketing, mathematical, statistical, information technology, and entrepreneurial abilities.
			11	Exhibit proficiency in 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.		**12**	Demonstrate a commitment to lifelong learning for professional improvement, including the ability to conduct self-assessment and performance appraisals for personal and professional development.
			13	Display the ability to conduct performance evaluations and engage in self-reflection.
	----------		**14**	Participate in community service and initiatives, including pharmacovigilance, and contribute meaningfully to environmental enhancement.

Attachment 9

Coherence between NARS Attributes of the Pharmacy Graduates and mission and main strategic goals

NARS Attributes of the Pharmacy Graduates	Mission				Main Strategic Goals			
	Preparing pharmacists who possess professional ethics and are qualified with the latest pharmaceutical concepts and therapeutic care enables them to contribute to the development of pharmaceutical industries.	Raise the efficiency of the pharmaceutical care system at the local and regional levels in hospitals and private pharmacies by providing pharmaceutical services at a professionally skilled level in public and private pharmacies, pharmaceutical factories and companies, drug control and food analysis laboratories	Working in the field of media and pharmaceutical marketing.	Actively participating in scientific research through research centers and universities to serve the community.	Developing of institutional capacity	Developing the community service and environmental development sector	Developing the teaching and learning system for the undergraduate and postgraduate levels	Excellence in scientific research Excellence in scientific research
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 in 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.	●	●			●	●		

Attachment 10

Coherence between NARS key elements and the PharmD-Pharmacy Program key elements

NARS's Learning Outcomes	PharmD-Pharmacy Program learning outcomes.
DOMAIN 1- FUNDAMENTAL KNOWLEDGE	
1. COMPETENCY	**1. COMPETENCY**
1-1. Integrate knowledge from basic and applied pharmaceutical and clinical sciences to standardize materials, formulate and manufacture products, and deliver population and patient-centered care	**1-1. Apply and integrate core knowledge and skills in the evolving domains of basic biomedical, pharmaceutical, clinical, social-behavioral, and administrative sciences to evaluate and manufacture products, address therapeutic challenges within communities, advance human health, and deliver patient-centered care.**
KEY ELEMENTS	**KEY ELEMENTS**
1-1-1. Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.	**1-1-1. Exhibit a strong understanding and appreciation of the principles 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.	**1-1-2. Employ accurate pharmaceutical and medical terminology, abbreviations, and symbols in pharmacy practice and recall the scientific names of drugs.**
1-1-3. Integrate knowledge from fundamental sciences to handle, identify, extract, design, prepare, analyze, and assure quality of synthetic/natural pharmaceutical materials/products.	**1-1-3. Apply the principles of fundamental sciences to manage, characterize, isolate, extract, develop, formulate, analyze, and ensure the quality of synthetic and natural pharmaceutical raw materials, finished products, and biological macromolecules.**
1-1-4. Articulate knowledge from fundamental sciences to explain drugs' actions and evaluate their appropriateness, effectiveness, and safety in individuals and populations.	**1-1-4. Apply fundamental scientific principles to explain how drugs work and evaluate their suitability, efficacy, and safety for individuals and populations.**
1-1-5. Retrieve information from fundamental sciences to solve therapeutic problems.	**1-1-5. Apply fundamental scientific principles to address and resolve therapeutic challenges.**
1-1-6. Utilize scientific literature and collect and interpret information to enhance professional decision.	**1-1-6. Integrate evidence from scientific literature to inform and optimize professional decision-making.**

1-1-7. Identify and critically analyze newly emerging issues influencing pharmaceutical industry and patient health care.	**1-1-7. Conduct rigorous evidence reviews to identify and assess emerging trends and innovations relevant to the pharmaceutical industry and patient care.**
	1-1-8. Employ health informatics to enhance the quality of health and nutritional care, optimize resource management, improve patient safety and deepen the understanding of metabolic disorders.
	1-1-9. Conduct accurate pharmaceutical, compounding, and patient-specific calculations, encompassing pharmacokinetic and other therapeutic considerations.
DOMAIN 2: PROFESSIONAL AND ETHICAL PRACTICE	
2-1- COMPETENCY	**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.	**Collaborate effectively within an inter-professional healthcare team to enhance the quality of life for individuals and communities, while upholding patient rights.**
KEY ELEMENTS	**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.	**2-1-1. Fulfill responsibilities and exercise authority within the legal and professional framework, respecting the roles and contributions of all members of the healthcare team.**
2-1-2. Adopt ethics of health care and pharmacy profession respecting patients' rights and valuing people diversity.	**2-1-2. Integrate ethical principles outlined in professional codes of conduct to safeguard patient rights, respect human dignity, and ensure equitable healthcare delivery for diverse populations.**
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.	**2-1-3. Understand personal and professional limitations and accept support from other healthcare professionals.**
	2-1-4. Maintain professional boundaries and collaborate with other healthcare providers through consultations and referrals.
	2-1-5. Embrace the principle that ethical pharmacy practice values patient care above profit generation, while maintaining a sound business model.

2-2- COMPETENCY	**2-2- COMPETENCY**
Standardize pharmaceutical materials, formulate and manufacture pharmaceutical products, and participate in systems for dispensing, storage, and distribution of medicines.	**Contribute to the advancement of the pharmaceutical industry by participating in the standardization of materials, the development and manufacture of products, and the optimization of the pharmaceutical supply chain.**
KEY ELEMENTS	**KEY ELEMENTS**
2-2-1. Isolate, design, identify, synthesize, purify, analyze, and standardize synthetic/natural pharmaceutical materials.	**2-2-1. Engage in the scientific processes of isolating, designing, identifying, synthesizing, purifying, analyzing, and standardizing synthetic and 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.	**2-2-2. Integrate quality management principles throughout the pharmaceutical lifecycle, from development to distribution, while proactively addressing potential 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.	**2-2-3. Demonstrate a comprehensive understanding of various laboratory tools and instruments, and select appropriate techniques for the synthesis, analysis, and production of pharmaceutical materials.**
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.	**2-2-4. Integrate the principles of pharmaceutical calculations, biostatistical analysis, bioinformatics, pharmacokinetics, and biopharmaceutics to optimize drug delivery systems, adjust dosages, conduct bioequivalence studies, and enhance overall pharmacy practice.**
	2-2-5. Demonstrate proficiency in the preparation and compounding of non-sterile and sterile products, and other extemporaneous formulations, according to recognized guidelines and standards of practice.

2-3- COMPETENCY	2-3- COMPETENCY
Handle and dispose biological and synthetic/natural pharmaceutical materials/products effectively and safely with respect to relevant laws and legislations.	**Ensure the safe and effective handling and disposal of biologicals and synthetic/natural pharmaceutical materials/products in strict compliance with all relevant laws and regulations.**
KEY ELEMENTS	**KEY ELEMENTS**
2-3-1. Handle, identify, and dispose biological, synthetic/natural materials, biotechnology-based and radio-labeled products, and other materials/products used in pharmaceutical field.	**2-3-1. Demonstrate safe and responsible handling, proper identification, and appropriate disposal of biologicals, synthetic/natural materials, biotechnology-based products, radiolabeled compounds, and other. materials used in the pharmaceutical field.**
2-3-2. Recognize and adopt ethical, legal, and safety guidelines for handling and disposal of biological, and pharmaceutical materials/products.	**2-3-2. Ensure all handling and disposal activities related to biological and pharmaceutical materials/products are conducted in accordance with ethical principles, relevant laws and regulations, and established safety guidelines.**
	2-3-3. Establish protocols for the safe and compliant return or disposal of recalled, expired, and unusable products.
2-4- COMPETENCY	**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.	**Collaborate effectively in emergency situations, including xenobiotic poisoning, by actively sharing professional decisions and appropriate life-saving actions. Demonstrate proficiency in forensic investigations.**
KEY ELEMENTS	**KEY ELEMENTS**
2-4-1. Ensure safe handling/use of poisons to avoid their harm to individuals and communities.	**2-4-1. Prioritize safe handling and use of poisons to prevent harm to individuals and communities.**
2-4-2. Demonstrate understanding of the first aid measures needed to save patient's life.	**2-4-2. Understand and be able to apply appropriate first aid measures in life-threatening situations.**
2-4-3. Take actions to solve any identified medicine related and pharmaceutical care problems.	**2-4-3. Address and resolve identified medicine-related and pharmaceutical care issues.**
2-4-4. Assess toxicity profiles of different xenobiotics and detect poisons in biological specimens.	**2-4-4. Evaluate the toxicity of chemicals and various xenobiotics and detect poisons in biological samples.**

	2-4-5. Demonstrate the ability to recognize medical or health concerns that fall outside of one's professional scope and take appropriate action, such as referring patients to other qualified healthcare providers. **2-4-6. Demonstrate knowledge of physical assessment and nutritional assessment principles essential for patient care.**
2-5- COMPETENCY	**2-5- COMPETENCY**
Contribute in pharmaceutical research studies and clinical trials needed to authorize medicinal products.	**Participate in pharmaceutical research studies and clinical trials to support drug approval.**
KEY ELEMENTS	**KEY ELEMENTS**
2-5-1. Fulfill the requirements of the regulatory framework to authorize a medicinal product including quality, safety, and efficacy requirements.	**2-5-1. Meet all regulatory requirements for the authorization of medicinal products, including quality, safety, and efficacy standards.**
2-5-2. Retrieve, interpret, and critically evaluate evidence-based information needed in pharmacy profession.	**2-5-2. Exhibit the ability to effectively retrieve, interpret, and critically appraise evidence-based information essential for the advancement of pharmacy practice.**
2-5-3. Contribute in planning and conducting research studies using appropriate methodologies.	**2-5-3. Participate in the planning and execution of research studies using appropriate methodologies.**
2-6- COMPETENCY	**2-6- COMPETENCY**
Perform pharmacoeconomic analysis and develop promotion, sales, marketing, and business administration skills.	**Conduct pharmacoeconomic analyses and cultivate skills in promotion, sales, marketing, and business administration.**
KEY ELEMENTS	**KEY ELEMENTS**
2-6-1. Apply the principles of business administration and management to ensure rational use of financial and human resources.	**2-6-1. Employ sound business and management principles to optimize the allocation of financial and human resources in pharmacy field.**
2-6-2. Utilize the principles of drug promotion, sales, marketing, accounting, and pharmacoeconomic analysis.	**2-6-2. Apply principles of drug promotion, sales, marketing, accounting, and Pharmacoeconomics.**

DOMAIN 3: PHARMACEUTICAL CARE	
3-1- COMPETENCY	**3-1- COMPETENCY**
Apply the principles of body functions to participate in improving health care services using evidence-based data.	**Collaborate in improving healthcare services by applying knowledge of body functions and utilizing evidence-based data.**
KEY ELEMENTS	**KEY ELEMENTS**
3-1-1. Apply the principles of body function and basis of genomics in health and disease states to manage different diseases.	**3-1-1. Integrate knowledge of body function and genomics into the management of various diseases.**
3-1-2. Apply the principles of public health and pharmaceutical microbiology to select and assess proper methods of infection control.	**3-1-2. Utilize public health and microbiological principles to select and evaluate effective infection control measures.**
3-1-3. Monitor and control microbial growth and carry out laboratory tests for identification of infections/diseases.	**3-1-3. Control microbial growth and conduct laboratory tests for the diagnosis of infections.**
3-1-4. Relate etiology, epidemiology, pathophysiology, laboratory diagnosis, and clinical features of infections/diseases and their pharmacotherapeutic approaches.	**3-1-4. Correlate etiology, epidemiology, pathophysiology, laboratory diagnosis, clinical manifestations, and pharmacotherapy of infectious diseases.**
3-2- COMPETENCY	**3-2- COMPETENCY**
Provide counseling and education services to patients and communities about safe and rational use of medicines and medical devices.	**Deliver comprehensive patient and community education services to promote the safe and effective utilization of medications and medical devices.**
KEY ELEMENTS	**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.	**3-2-1. Integrate a comprehensive understanding of the pharmacological properties of drugs, including their mechanisms of action, therapeutic uses, dosage regimens, contraindications, adverse drug reactions, and potential drug interactions.**
3-2-2. Apply the principles of clinical pharmacology and pharmacovigilance for the rational use of medicines and medical devices.	**3-2-2. Utilize clinical pharmacology and pharmacovigilance principles to optimize medication and medical device use.**

3-2-3. Provide evidence-based information about safe use of complementary medicine including phytotherapy, aromatherapy, and nutraceuticals.	**3-2-3. Deliver evidence-based information on the safe use of complementary therapies, 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.	**3-2-4. Disseminate information on the toxic profiles of drugs and other xenobiotics, including sources, identification, symptoms, and management strategies.**
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.	**3-2-5. Promote the safe and proper use of medications, including OTC drugs and medical devices, through education and counseling of patients, other healthcare professionals, and the community.**
3-2-6. Maintain public awareness on social health hazards of drug misuse and abuse.	**3-2-6. Promote public awareness campaigns to prevent the social and health hazards of drug misuse and abuse.**
	3-2-7. Recognize and effectively manage medication incidents and adverse drug events to minimize harm and prevent recurrence.
DOMAIN 4: PERSONAL PRACTICE	
4-1- COMPETENCY	**4-1- COMPETENCY**
Express leadership, time management, critical thinking, problem solving, independent and team working, creativity and entrepreneurial skills.	**Demonstrate leadership, time management, critical thinking, problem-solving, independent and teamwork, creativity, and entrepreneurial skills.**
KEY ELEMENTS	**KEY ELEMENTS**
4-1-1. Demonstrate responsibility for team performance and peer evaluation of other team members, and express time management skills.	**4-1-1. Demonstrate a strong commitment to teamwork, including responsibility for team performance, the conduct of peer evaluations, and the effective management of time and resources.**
4-1-2. Retrieve and critically analyze information, identify and solve problems, and work autonomously and effectively in a team.	**4-1-2. Exhibit the ability to effectively retrieve, analyze, and synthesize information, identify and solve complex problems, and function both autonomously and as a productive member of a collaborative team.**
4-1-3. Demonstrate creativity and apply entrepreneurial skills within a simulated entrepreneurial activity.	**4-1-3-. Demonstrate innovative thinking and entrepreneurial skills by participating in a simulated entrepreneurial activity.**
4-2- COMPETENCY	**4-2- COMPETENCY**

Effectively communicate verbally, non-verbally and in writing with individuals and communities.	**Communicate effectively with individuals and communities using verbal, nonverbal, and written skills.**
KEY ELEMENTS	**KEY ELEMENTS**
4-2-1. Demonstrate effective communication skills verbally, non-verbally, and in writing with professional health care team, patients, and communities.	**4-2-1. Demonstrate professional communication skills, including verbal, nonverbal, and written communication, with healthcare teams, patients, and communities.**
4-2-2. Use contemporary technologies and media to demonstrate effective presentation skills.	**4-2-2. Develop and demonstrate effective presentation skills using contemporary technologies and media.**
4-3- COMPETENCY	**4-3- COMPETENCY**
Express self-awareness and be a life-long learner for continuous profession improvement.	**Demonstrate self-awareness and engage in continuous professional development.**
KEY ELEMENTS	**KEY ELEMENTS**
4-3-1. Perform self-assessment to enhance professional and personal competencies.	**4-3-1. Utilize self-assessment for continuous reflection and improvement of professional and personal competencies.**
4-3-2. Practice independent learning needed for continuous professional development.	**4-3-2- Demonstrate a commitment to lifelong learning through independent study and continuous professional development.**

Attachment 11

Matrix of Academic Standards (Program key elements) with Courses

Course name	Course code	DOMAIN 1- FUNDMENTAL KNOWLEDGE									DOMAIN 2- PROFESSIONAL AND ETHICAL PRACTICE																	
		(1-1)									(2-1)					(2-2)					(2-3)			(2-4)					
		1-1-1.	1-1-2.	1-1-3.	1-1-4.	1-1-5.	1-1-6.	1-1-7.	1-1-8.	1-1-9.	2-1-1.	2-1-2.	2-1-3.	2-1-4.	2-1-5.	2-2-1.	2-2-2.	2-2-3.	2-2-4.	2-2-5.	2-3-1.	2-3-2.	2-3-3.	2-4-1.	2-4-2.	2-4-3.	2-4-4.	2-4-5.	2-4-6.
Pharmaceutical Analytical Chemistry I	PA 101	●	●	●												●					●								
Pharmaceutical Organic Chemistry I	PC 101	●	●	●												●		●			●								
Medicinal Plants	PG 101			●												●													
Pharmacy Orientation	PT 101	●																											
Medical Terminology	PO 101		●									●		●															
Information Technology	UR 101																												
Mathematics	MS 101																												
Human Rights and Fighting Corruption	UR 102																												
Pharmaceutical Analytical Chemistry II	PA 202	●	●	●												●					●								
Pharmaceutical Organic Chemistry II	PC 202	●	●	●												●		●											
Cell Biology	PB 201	●					●															●	●						
Pharmacognosy I	PG 202	●		●												●		●											
Anatomy and Histology	MD 201																												
Physical Pharmacy	PT 202	●																	●										

Psychology	**UR 203**																													
Pharmaceutical Analytical Chemistry III	**PA 303**	●		●												●						●								
Pharmaceutical Organic Chemistry III	**PC 303**	●	●	●												●		●												
Pharmacognosy II	**PG 303**	●		●												●		●												
Pharmaceutics I	**PT 303**																													
Physiology and Pathophysiology	**MD 302**																													
General Microbiology and Immunology	**PM 301**	●			●																									
Pharmaceutical Legislations and Regulatory Affairs	**PT 304**	●																												
Instrumental Analysis	**PA 404**	●		●												●						●								
Pharmaceutical Organic Chemistry IV	**PC 404**	●	●	●												●		●												
Phytochemistry I	**PG 404**			●												●					●									
Pharmaceutics II	**PT 405**	●																												
Biochemistry I	**PB 402**	●														●												●		
Pharmaceutical Microbiology	**PM 402**	●																			●									
Drug Design and Metabolism	**PC 505**	●	●		●											●												●		
Phytochemistry II	**PG 505**			●																	●									
Pharmaceutics III	**PT 506**									●								●												
Biochemistry II	**PB 503**	●														●		●												
Pharmacology I	**PO 502**				●	●						●	●																	
Medical Microbiology	**PM 503**	●																			●									
Biostatistics	**PO 503**	●					●												●											
Medicinal Chemistry I	**PC 606**	●	●	●																										

Pharmacology II	**PO 604**				●	●																				●				
Applied and Forensic Pharmacognosy	**PG 606**			●												●									●					
Biopharmaceutics and Pharmacokinetics	**PT 607**	●																												
Pharmaceutics IV	**PT 608**			●																●										
Pathology	**MD 603**																													
Communication Skills	**NP 601**										●			●																
Medicinal Chemistry II	**PC 707**	●	●	●																						●				
Pharmacology III	**PO 705**				●	●							●													●				
Parasitology and Virology	**PM 704**	●																												
Clinical Biochemistry	**PB 704**	●				●												●			●									
Pharmaceutical Technology I	**PT 709**			●																										
Drug Information	**PP 701**						●		●		●															●				
Medicinal Chemistry III	**PC 808**	●	●					●																						
Phytotherapy and Aromatherapy	**PG 807**	●														●	●													
Basic and Clinical Toxicology	**PO 806**				●	●						●	●																	
Pharmaceutical Technology II	**PT 810**							●										●												
Community Pharmacy Practice	**PP 802**		●		●																						●		●	
Scientific Writing	**NP 802**		●																											
Hospital Pharmacy	**PP 903**	●																●				●								
Pharmaceutical Biotechnology	**PM 905**	●		●												●		●												
Clinical Pharmacy I	**PP 904**				●	●							●													●				●
Clinical Pharmacokinetics	**PP 905**	●			●					●									●							●				

Public Health	**PM 906**	●									●																		
Marketing and Pharmacoeconomics	**NP 903**																												
Entrepreneurship	**NP 904**																												
Good Manufacturing Practice	**PT 011**	●															●												
Quality Control of Pharmaceuticals	**PA 005**	●		●												●	●												
Advanced Drug Delivery Systems	**PT 012**					●																				●			
Clinical Pharmacy II and Pharmacotherapeutics	**PP 006**					●													●										
First Aid	**PO 007**					●			●																●			●	
Drug Interaction	**PO 008**				●																						●		
Clinical Research, Pharmacoepidemiology and Pharmacovigilance	**PP 007**							●																					
Professional Ethics	**PP 008**	●									●	●			●														
Quality Assurances and GMP	**PT E13**	●															●												
Applied Industrial Pharmacy	**PT E14**	●																●											
Cosmetic Preparations	**PT E15**								●											●									
Complementary and Alternative Medicine	**PG E08**	●																											
Marine Natural Products	**PG E09**			●												●					●							
Chromatography and Separation Techniques	**PG E10**			●												●					●							
Drug Targets	**PC E09**	●	●		●																								
Biological Standardization	**PO E09**			●																			●						

Veterinary Pharmacology	**PO E10**	●			●		●									●			●											
Advanced Spectroscopic and Chromatographic Analytical Techniques	**PA E06**		●	●																		●						●		
Gene Regulation and Epigenetics	**PM E07**	●																												
Antimicrobial Stewardship	**PM E08**	●																			●									
Infection Control	**PM E09**	●																			●									
Bioinformatics	**PM E10**	●																												
Clinical Nutrition	**PB E05**	●																												●
Pharmaceutical Care	**PP E09**				●			●					●	●																

Follow: Attachment 11

Matrix of Academic Standards (Program key elements) with Courses

Course name	Course code	DOMAIN 2- PROFESSIONAL AND ETHICAL PRACTICE					DOMAIN 3: PHARMACEUTICAL CARE										DOMAIN 4: PERSONAL PRACTICE						
		(2-5)			(2-6)		(3-1)				(3-2)							(4-1)			(4-2)		(4-3)	
		2-5-1.	2-5-2.	2-5-3.	2-6-1.	2-6-2.	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.	3-2-7.	4-1-1.	4-1-2.	4-1-3.	4-2-1.	4-2-2.	4-3-1.	4-3-2.
Pharmaceutical Analytical Chemistry I	PA 101																	●	●					
Pharmaceutical Organic Chemistry I	PC 101			●														●						
Medicinal Plants	PG 101												●										●	
Pharmacy Orientation	PT 101		●												●		●	●						
Medical Terminology	PO 101						●														●			●
Information Technology	UR 101																							
Mathematics	MS 101																							
Human Rights and Fighting Corruption	UR 102																							
Human Rights and Fighting Corruption	UR 102																							
Pharmaceutical Analytical Chemistry II	PA 202																	●	●					
Pharmaceutical Organic Chemistry II	PC 202			●														●						
Cell Biology	PB 201							●									●							●
Pharmacognosy I	PG 202										●			●							●			

Anatomy and Histology	**MD 201**																							
Physical Pharmacy	**PT 202**																●		●					
Psychology	**UR 203**																							
Pharmaceutical Analytical Chemistry III	**PA 303**																	●					●	
Pharmaceutical Organic Chemistry III	**PC 303**			●														●						
Pharmacognosy II	**PG 303**										●			●							●			
Pharmaceutics I	**PT 303**																							
Physiology and Pathophysiology	**MD 302**																							
General Microbiology and Immunology	**PM 301**		●																		●	●		
Pharmaceutical Legislations and Regulatory Affairs	**PT 304**		●												●		●	●						
Instrumental Analysis	**PA 404**																●						●	
Pharmaceutical Organic Chemistry IV	**PC 404**			●														●						
Phytochemistry I	**PG 404**												●							●				●
Pharmaceutics II	**PT 405**		●												●			●						
Biochemistry I	**PB 402**						●																	●
Pharmaceutical Microbiology	**PM 402**							●	●													●		
Drug Design and Metabolism	**PC 505**										●							●				●		
Phytochemistry II	**PG 505**										●			●				●						
Pharmaceutics III	**PT 506**														●			●						
Biochemistry II	**PB 503**		●				●										●							●
Pharmacology I	**PO 502**							●			●			●			●				●		●	
Medical Microbiology	**PM 503**																							
Biostatistics	**PO 503**									●										●	●			

Medicinal Chemistry I	**PC 606**			●							●				●			●	●					
Pharmacology II	**PO 604**										●						●				●			●
Applied and Forensic Pharmacognosy	**PG 606**												●					●						●
Biopharmaceutics and Pharmacokinetics	**PT 607**		●												●		●	●						
Pharmaceutics IV	**PT 608**														●		●	●						
Pathology	**MD 603**																							
Communication Skills	**NP 601**														●	●		●			●	●	●	
Medicinal Chemistry II	**PC 707**			●							●							●	●					
Pharmacology III	**PO 705**										●	●						●		●				
Parasitology and Virology	**PM 704**		●					●	●	●											●			
Clinical Biochemistry	**PB 704**						●			●											●			●
Pharmaceutical Technology I	**PT 709**	●													●	●		●						
Drug Information	**PP 701**														●		●		●					●
Medicinal Chemistry III	**PC 808**			●							●				●			●	●					
Phytotherapy and Aromatherapy	**PG 807**						●							●					●					
Basic and Clinical Toxicology	**PO 806**													●			●				●		●	
Pharmaceutical Technology II	**PT 810**														●		●	●						
Community Pharmacy Practice	**PP 802**														●	●					●			●
Scientific Writing	**NP 802**		●																		●			●
Hospital Pharmacy	**PP 903**												●		●			●						
Pharmaceutical Biotechnology	**PM 905**						●											●				●		
Clinical Pharmacy I	**PP 904**									●	●													●
Clinical Pharmacokinetics	**PP 905**						●																	●
Public Health	**PM 906**						●	●														●		

Marketing and Pharmacoeconomics	**NP 903**				●	●												●	●		●		
Entrepreneurship	**NP 904**																						
Good Manufacturing Practice	**PT 011**													●		●	●						
Quality Control of Pharmaceuticals	**PA 005**															●						●	
Advanced Drug Delivery Systems	**PT 012**													●		●	●						
Clinical Pharmacy II and Pharmacotherapeutics	**PP 006**									●		●				●				●			
First Aid	**PO 007**								●		●					●				●			
Drug Interaction	**PO 008**		●								●					●		●		●			
Clinical Research, Pharmacoepidemiology and Pharmacovigilance	**PP 007**	●	●	●								●				●		●					
Professional Ethics	**PP 008**															●				●		●	
Quality Assurances and GMP	**PT E13**										●						●						
Applied Industrial Pharmacy	**PT E14**											●					●						
Cosmetic Preparations	**PT E15**												●		●		●						
Complementary and Alternative Medicine	**PG E08**		●			●																	
Marine Natural Products	**PG E09**										●					●				●			
Chromatography and Separation Techniques	**PG E10**												●						●				●
Drug Targets	**PC E09**			●							●						●	●					●
Biological Standardization	**PO E09**		●								●								●				●
Veterinary Pharmacology	**PO E10**		●				●			●										●			
Advanced Spectroscopic and Chromatographic Analytical Techniques	**PA E06**																		●				●

Gene Regulation and Epigenetics	**PM E07**		●					●		●												●		
Antimicrobial Stewardship	**PM E08**							●	●													●		
Infection Control	**PM E09**							●	●													●		
Bioinformatics	**PM E10**		●					●		●												●		
Clinical Nutrition	**PB E05**							●	●					●							●			
Pharmaceutical Care	**PP E09**														●	●			●		●			

Attachment 12

Matrix of the coherence between learning and teaching methods and the Program Key-elements

No.	Teaching and learning methods	DOMAIN 1- FUNDMENTAL KNOWLEDGE									DOMAIN 2- PROFESSIONAL AND ETHICAL PRACTICE																		
		(1-1)									(2-1)					(2-2)					(2-3)			(2-4)					
		1-1-1.	1-1-2.	1-1-3.	1-1-4.	1-1-5.	1-1-6.	1-1-7.	1-1-8.	1-1-9.	2-1-1.	2-1-2.	2-1-3.	2-1-4.	2-1-5.	2-2-1.	2-2-2.	2-2-3.	2-2-4.	2-2-5.	2-3-1.	2-3-2.	2-3-3.	2-4-1.	2-4-2.	2-4-3.	2-4-4.	2-4-5.	2-4-6.
1	Lecture	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2	Self-learning.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
3	Computer aided learning.			●	●													●											
4	Problem-based learning.									●									●	●									
5	Case study					●	●																			●		●	
6	Presentation.																												
7	Practical work and tutorials.			●	●	●			●	●					●	●	●	●	●	●	●	●		●	●	●	●	●	●
8	Hybrid learning.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
9	Collaborative learning.		●																										
10	Assignments and activities.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
11	Research projects.																												
12	Simulation based learning.			●																									

Follow: Attachment 12

Matrix of the coherence between learning and teaching methods and the Program Key-elements

No.	Teaching and learning methods	DOMAIN 2- PROFESSIONAL AND ETHICAL PRACTICE					DOMAIN 3: PHARMACEUTICAL CARE											DOMAIN 4: PERSONAL PRACTICE						
		(2-5)			(2-6)		(3-1)				(3-2)							(4-1)			(4-2)		(4-3)	
		2-5-1.	2-5-2.	2-5-3.	2-6-1.	2-6-2.	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.	3-2-7.	4-1-1.	4-1-2.	4-1-3.	4-2-1.	4-2-2.	4-3-1.	4-3-2.
1	Lecture	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●							
2	Self-learning.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●					●
3	Computer aided learning.		●	●																		●		
4	Problem-based learning.						●												●	●				
5	Case study						●	●		●			●	●	●	●	●							
6	Presentation.				●	●												●	●	●	●	●	●	●
7	Practical work and tutorials.	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●					
8	Hybrid learning.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●							
9	Collaborative learning.																	●	●		●			
10	Assignments and activities.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
11	Research projects.																	●	●	●	●	●	●	●
12	Simulation based learning.																					●		

Attachment 13

Matrix of the coherence between assessment methods and the Program Key-elements

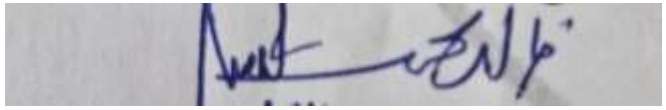
No.	Assessment methods	DOMAIN 1- FUNDMENTAL KNOWLEDGE									DOMAIN 2- PROFESSIONAL AND ETHICAL PRACTICE																		
		(1-1)									(2-1)					(2-2)					(2-3)			(2-4)					
		1-1-1.	1-1-2.	1-1-3.	1-1-4.	1-1-5.	1-1-6.	1-1-7.	1-1-8.	1-1-9.	2-1-1.	2-1-2.	2-1-3.	2-1-4.	2-1-5.	2-2-1.	2-2-2.	2-2-3.	2-2-4.	2-2-5.	2-3-1.	2-3-2.	2-3-3.	2-4-1.	2-4-2.	2-4-3.	2-4-4.	2-4-5.	2-4-6.
1	Periodical Exam.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
2	Practical Exam.			●	●	●			●	●					●	●	●	●	●	●	●		●	●	●	●	●	●	●
3	Written (Final) exam.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
4	Oral exam.	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Follow: Attachment 13

Matrix of the coherence between assessment methods and the Program Key-elements

No.	Assessment methods	DOMAIN 2- PROFESSIONAL AND ETHICAL PRACTICE					DOMAIN 3: PHARMACEUTICAL CARE										DOMAIN 4: PERSONAL PRACTICE						
		(2-5)			(2-6)		(3-1)				(3-2)							(4-1)			(4-2)		(4-3)	
		2-5-1.	2-5-2.	2-5-3.	2-6-1.	2-6-2.	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.	3-2-7.	4-1-1.	4-1-2.	4-1-3.	4-2-1.	4-2-2.	4-3-1.	4-3-2.
1	Periodical Exam.	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
2	Practical Exam.	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
3	Written (Final) exam.	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•							
4	Oral exam.	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Khalid Mohammed Badr Eldeen



Program Coordinator

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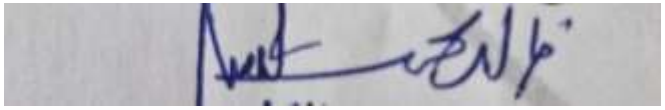

Vice Dean for Education and Student Affairs