

# Program Specification

## (2025-2026)

### 1. Basic Information

<b>ProgramTitle (according to what is stated in the bylaw):</b>	Bachelor of Pharmacy-Pharm D
<b>Total number of credit hours/points of the program:</b>	178
<b>Number of academic years/levels (expected program duration):</b>	Five years of academic study and one year for Training
<b>Departments Participating in teaching the program:</b>	<p><b>a) Departments affiliated to faculty of pharmacy:</b></p> <ul style="list-style-type: none"> <li>- Department of Analytical Chemistry</li> <li>- Department of Biochemistry</li> <li>- Department of Pharmaceutics</li> <li>- Department of Medicinal Chemistry</li> <li>- Department of Microbiology &amp; Immunology</li> <li>- Department of Pharmaceutical Organic Chemistry</li> <li>- Department of Pharmacognosy</li> <li>- Department of Pharmacology &amp; Toxicology</li> <li>- Department of Pharmacy Practice</li> </ul> <p><b>b) Departments not affiliated to faculty of pharmacy:</b></p> <ul style="list-style-type: none"> <li>- Histology and Anatomy departments (Faculty of Medicine)</li> <li>- Pediatrics department (Faculty of Medicine)</li> </ul>

	<ul style="list-style-type: none"> <li>- Clinical Oncology department (Faculty of Medicine)</li> <li>- Endemic Diseases department (Faculty of Medicine)</li> <li>- Internal Medicine department (Faculty of Medicine)</li> <li>- General Surgery department (Faculty of Medicine)</li> <li>- Mathematics department (Faculty of Science)</li> <li>- Information Technology department (Faculty of computers and information)</li> <li>- English Language department (Faculty of Education and Faculty of Arts)</li> <li>- Psychology department (Faculty of Education and Faculty of Arts)</li> <li>- Management Sciences department (Faculty of Technology and Development)</li> </ul>
<b>Faculty/Institute:</b>	<b>Pharmacy</b>
<b>University/Academy:</b>	<b>Zagazig</b>
<b>Program majors/divisions/tracks/specialties in the final year:</b>	<b>None</b>
<b>Partnerships with other parties and the nature of each:</b>	<b>None</b>
<b>Name of the program coordinator (attach the assignment decision):</b>	<b>Prof. Dr./Hanan El Nahas</b>
<b>Program Specification Approval Date:</b>	<b>8/11/2025</b>
<b>Council responsible for Program Specification Approval (Attach the Decision / Minutes):</b>	<b>Faculty Council</b>

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

The program aims at preparing distinguished and qualified pharmacy graduates able to work in hospital and community pharmacies, pharmaceutical industries and companies, quality control laboratories and drug marketing as well as food analysis, promotion, research centers and universities.

## 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	Compulsory	6	6 hrs.	3.37%
Faculty Requirements		61 (Professional)	157 hrs.	88.20 %
		○ 55 Department courses	○ 145 hrs.	○ 81.46 %
		○ 6 Medical courses	○ 12 hrs.	○ 6.74 %
	Elective	5 Non-Professional	7 hrs.	3.93%
		4	8 hrs.	4.49 %
Program Requirements		76	178 hrs.	
Requirements of the majors/ divisions/ tracks/ specializations in the final year (if any)		---	---	---
Other requirements (Pass or fail)	Field Training (Preliminary training)		100 contact hrs.	Not included in total credit hours of the program
	Graduation Project (included in the mandatory training year)		180 contact hrs.	

	<b>Mandatory training year</b>	<b>6 Rotations:</b> ○ 4 mandatory rotations ○ 2 elective ones	1080 hrs. (six rotations, 180 hrs./rotation)	
<b>Total Compulsory Courses</b>		72	170 hrs.	95.51%
<b>Elective Courses</b>		4	8 hrs.	4.49%
<b>Total</b>		76	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
1st	1	PA 101	Pharmaceutical Analytical Chemistry I	Compulsory	Faculty	3	2	1	--
1st	1	PR 101	Pharmaceutical Organic Chemistry I	Compulsory	Faculty	3	2	1	--
1st	1	PT 101	Pharmacy Orientation	Compulsory	Faculty	1	1	--	--
1st	1	PG 101	Medicinal plants	Compulsory	Faculty	3	2	1	--
1st	1	MD 101	Medical Terminology	Compulsory	Faculty	1	1	--	--
1st	1	NP 101	Information Technology	Compulsory	Faculty	2	1	1	--
1st	1	NP 102	Mathematics	Compulsory	Faculty	1	1	--	--
1st	1	UR 101	English language I	Compulsory	University	1	1	--	--
1st	1	UR 102	Social Issues	Compulsory	University	1	1	--	--
1st	2	PA 202	Pharmaceutical Analytical Chemistry II	Compulsory	Faculty	3	2	1	--
1st	2	PR 202	Pharmaceutical Organic Chemistry II	Compulsory	Faculty	3	2	1	--
1st	2	MD 202	Anatomy & Histology	Compulsory	Faculty	3	2	1	--

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
1st	2	PT 202	Physical pharmacy	Compulsory	Faculty	3	2	1	--
1st	2	PG 202	Pharmacognosy I	Compulsory	Faculty	3	2	1	--
1st	2	UR 203	Psychology	Compulsory	University	1	1	-	--
1st	2	PB 201	Cell Biology	Compulsory	Faculty	2	1	1	--
1st	2	UR 204	Principles of Quality Assurance	Compulsory	University	1	1	-	--
1st	2	UR 205	English language II	Compulsory	University	1	1	-	--
2 <sup>nd</sup>	3	PA 303	Pharmaceutical Analytical Chemistry III	Compulsory	Faculty	2	1	1	--
2 <sup>nd</sup>	3	PR 303	Pharmaceutical Organic Chemistry III	Compulsory	Faculty	3	2	1	--
2 <sup>nd</sup>	3	PG 303	Pharmacognosy II	Compulsory	Faculty	3	2	1	--
2 <sup>nd</sup>	3	MD 303	Biophysics	Compulsory	Faculty	2	1	1	--
2 <sup>nd</sup>	3	MD 304	Physiology and Pathophysiology	Compulsory	Faculty	3	2	1	--
2 <sup>nd</sup>	3	PM 301	General Microbiology and Immunology	Compulsory	Faculty	3	2	1	--
2 <sup>nd</sup>	3	PT 303	Pharmaceutics I	Compulsory	Faculty	3	2	1	--
2 <sup>nd</sup>	4	PB 402	Biochemistry I	Compulsory	Faculty	3	2	1	--
2 <sup>nd</sup>	4	PA 404	Instrumental Analysis	Compulsory	Faculty	3	2	1	--
2 <sup>nd</sup>	4	MD 405	Pathology	Compulsory	Faculty	2	1	1	--
2 <sup>nd</sup>	4	PT 404	Pharmaceutics II	Compulsory	Faculty	3	2	1	--
2 <sup>nd</sup>	4	PO 401	Pharmacology I	Compulsory	Faculty	3	2	1	--
2 <sup>nd</sup>	4	PR 404	Raw materials	Compulsory	Faculty	2	1	1	--
2 <sup>nd</sup>	4	NP 403	Scientific Writing and Communication skills	Compulsory	Faculty	2	1	1	--
2 <sup>nd</sup>	4	NP 404	Pharmaceutical Legislations and Professional ethics	Compulsory	Faculty	1	1	---	--

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
3 <sup>rd</sup>	5	PB 503	Biochemistry II	Compulsory	Faculty	3	2	1	--
3 <sup>rd</sup>	5	PM 502	Pharmaceutical Microbiology	Compulsory	Faculty	3	2	1	--
3 <sup>rd</sup>	5	PG 504	Phytochemistry I	Compulsory	Faculty	3	2	1	--
3 <sup>rd</sup>	5	PT 505	Pharmaceutics III	Compulsory	Faculty	3	2	1	--
3 <sup>rd</sup>	5	PC 501	Medicinal Chemistry I	Compulsory	Faculty	3	2	1	--
3 <sup>rd</sup>	5	PO 502	Pharmacology II	Compulsory	Faculty	3	2	1	--
3 <sup>rd</sup>	6	PM 603	Parasitology and Virology	Compulsory	Faculty	3	2	1	--
3 <sup>rd</sup>	6	PT 606	Pharmaceutics IV	Compulsory	Faculty	3	2	1	--
3 <sup>rd</sup>	6	PT 607	Biopharmaceutics and Pharmacokinetics	Compulsory	Faculty	3	2	1	--
3 <sup>rd</sup>	6	PG 605	Phytochemistry II	Compulsory	Faculty	3	2	1	--
3 <sup>rd</sup>	6	PO 603	Pharmacology III	Compulsory	Faculty	3	2	1	--
3 <sup>rd</sup>	6	PC 602	Medicinal Chemistry II	Compulsory	Faculty	3	2	1	--
4 <sup>th</sup>	7	PB 704	Clinical Biochemistry	Compulsory	Faculty	3	2	1	--
4 <sup>th</sup>	7	PM 704	Medical microbiology	Compulsory	Faculty	3	2	1	--
4 <sup>th</sup>	7	PO 704	Pharmacology IV	Compulsory	Faculty	2	1	1	--
4 <sup>th</sup>	7	PG 706	Applied & Forensic Pharmacognosy	Compulsory	Faculty	2	1	1	--
4 <sup>th</sup>	7	PC 703	Medicinal chemistry III	Compulsory	Faculty	3	2	1	--
4 <sup>th</sup>	7	PT 708	Pharmaceutical Technology I	Compulsory	Faculty	3	2	1	--
4 <sup>th</sup>	7	PE	Elective	<b>Elective</b>	Faculty	2	1	1	--
4 <sup>th</sup>	8	PP 801	Clinical Pharmacokinetics	Compulsory	Faculty	3	2	1	--
4 <sup>th</sup>	8	PC 804	Drug Design	Compulsory	Faculty	2	1	1	--
4 <sup>th</sup>	8	PO 805	Basic & Clinical Toxicology	Compulsory	Faculty	3	2	1	--

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
4 <sup>th</sup>	8	PM 805	Biotechnology & Molecular biology	Compulsory	Faculty	3	2	1	--
4 <sup>th</sup>	8	PP 802	Hospital Pharmacy	Compulsory	Faculty	2	1	1	--
4 <sup>th</sup>	8	PT 809	Pharmaceutical Technology II	Compulsory	Faculty	2	1	1	--
4 <sup>th</sup>	8	PE	Elective	<b>Elective</b>	Faculty	2	1	1	--
5 <sup>th</sup>	9	PP 903	Clinical Pharmacy & Pharmacotherapeutics I	Compulsory	Faculty	3	2	1	--
5 <sup>th</sup>	9	PO 906	Drug Information	Compulsory	Faculty	1	1	--	--
5 <sup>th</sup>	9	PP 904	Community Pharmacy Practice	Compulsory	Faculty	3	2	1	--
5 <sup>th</sup>	9	PT 910	Good Manufacturing Practice	Compulsory	Faculty	2	1	1	--
5 <sup>th</sup>	9	PA 905	Quality Control of Pharmaceuticals	Compulsory	Faculty	3	2	1	--
5 <sup>th</sup>	9	NP 905	Marketing & Pharmacoeconomics	Compulsory	Faculty	1	1	--	--
5 <sup>th</sup>	9	MD 906	First Aid and Basic Life Support	Compulsory	Faculty	1	1	--	--
5 <sup>th</sup>	9	PE	Elective	<b>Elective</b>	Faculty	2	1	1	--
5 <sup>th</sup>	10	PG 007	Phytotherapy and Aromatherapy	Compulsory	Faculty	3	2	1	--
5 <sup>th</sup>	10	PT 011	Advanced Drug Delivery Systems	Compulsory	Faculty	2	2	--	--
5 <sup>th</sup>	10	PM 006	Public Health and Preventive Medicine	Compulsory	Faculty	2	2	--	--
5 <sup>th</sup>	10	PP 005	Clinical pharmacy & Pharmacotherapeutics II	Compulsory	Faculty	2	1	1	--
5 <sup>th</sup>	10	PP 006	Drug Interaction	Compulsory	Faculty	2	1	1	--

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
5 <sup>th</sup>	10	PP 007	Clinical Research methodology & Pharmacovigilance	Compulsory	Faculty	2	1	1	--
5 <sup>th</sup>	10	PO 007	Biostatistics	Compulsory	Faculty	1	1	--	--
5 <sup>th</sup>	10	UR 006	Entrepreneurship	Compulsory	University	1	1	--	--
5 <sup>th</sup>	10	PE	Elective	<b>Elective</b>	Faculty	2	1	1	--

- **Elective courses**

Academic Level	Semester	Course Code	Course Title	Requirement Category/ Type*	Number of Credit Hours/ Points	Number of Weekly Hours		
						Theoretical teaching	Practical training	Other
4 <sup>th</sup> /5 <sup>th</sup>	7-10	PM E 07	Gene Regulation and Epigenetic	Faculty	2	1	1	--
4 <sup>th</sup> /5 <sup>th</sup>	7-10	PM E 0	Infection Control	Faculty	2	1	1	--
4 <sup>th</sup> /5 <sup>th</sup>	7-10	PG E 08	Chromatography and Separation Techniques	Faculty	2	1	1	--
4 <sup>th</sup> /5 <sup>th</sup>	7-10	PG E 09	Analysis of Food and Flavor	Faculty	2	1	1	--
4 <sup>th</sup> /5 <sup>th</sup>	7-10	PA E 06	Advanced Pharmaceutical Analysis – Spectroscopy	Faculty	2	1	1	--
4 <sup>th</sup> /5 <sup>th</sup>	8-10	PO E 08	Veterinary Pharmacology	Faculty	2	1	1	--

Academic Level	Semester	Course Code	Course Title	Requirement Category/ Type*	Number of Credit Hours/ Points	Number of Weekly Hours		
						Theoretical teaching	Practical training	Other
4 <sup>th</sup> /5 <sup>th</sup>	7-10	PO E 09	Biological Standardization	Faculty	2	1	1	--
5 <sup>th</sup>	9-10	MDE 07	Bioinformatics	Faculty	2	1	1	--
4 <sup>th</sup> /5 <sup>th</sup>	8-10	PPE 08	Oncology	Faculty	2	1	1	--
4 <sup>th</sup> /5 <sup>th</sup>	8-10	PPE 09	Pediatrics & Geriatric	Faculty	2	1	1	--
4 <sup>th</sup> /5 <sup>th</sup>	7-10	PTE 012	Cosmetic Preparations	Faculty	2	1	1	--
5 <sup>th</sup>	9-10	PTE 013	Applied Industrial Pharmacy	Faculty	2	1	1	--
4 <sup>th</sup> /5 <sup>th</sup>	8-10	PBE 05	Clinical Nutrition	Faculty	2	1	1	--

## 4. Academic Standards

- Adopted Academic Standards (NARS/ARS): NARS 2017
- Date of Adoption of Standards in the governing Council: 9/10/2018
- \* Decision/Minutes of the governing Council to be attached

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

Compulsory Courses	Academic Standards (NARS key element code)																																									
	Domain 1: Fundamental Knowledge							Domain 2: Professional and Ethical Practice								Domain 3: Pharmaceutical Care						Domain 4: Personal practice																				
	1-1- Competency							2-1- Competency	2-2- Competency			2-3- Competency	2-4- Competency		2-5- Competency		2-6- Competency	3-1- Competency		3-2- Competency				4-1- Competency		4-2- Competency	4-3- Competency															
(Name and code)	1-1-1	1-1-2	1-1-3	1-1-4	1-1-5	1-1-6	1-1-7	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	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	4-1-1	4-1-2	4-1-3	4-2-1	4-2-2	4-3-1	4-3-2
PA 101 Pharmaceutical Analytical Chemistry 1	✓		✓									✓		✓	✓																							✓				
PR 101 Pharmaceutical Organic Chemistry I	✓		✓								✓				✓																						✓			✓		
PT 101 Pharmacy Orientation	✓	✓						✓																															✓			
PG 101 Medicinal plants	✓		✓								✓				✓																									✓		

(Name and code)	1-1-1-	1-1-2-	1-1-3-	1-1-4-	1-1-5-	1-1-6-	1-1-7-	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-	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-	4-1-1-	4-1-2-	4-1-3-	4-2-1-	4-2-2-	4-3-1-	4-3-2-								
MD 101 Medical Terminology	✓	✓																																							✓	✓								
NP 101 Information Technology	✓																																																	
NP 102 Mathematics	✓																																																	
UR 101 English language I	✓																																																	
UR 102 Social Issues	✓																																																	
PA 202 Pharmaceutical Analytical Chemistry II	✓		✓								✓				✓																																			
PR 202 Pharmaceutical Organic Chemistry II	✓		✓								✓	✓			✓	✓																																		
MD 202 Anatomy & Histology	✓																										✓		✓																					
PT 202 Physical pharmacy	✓													✓																																				
PG 202 Phannacognosy I	✓		✓								✓				✓																																			
UR 203 Psychology	✓								✓																																									
PB 201 Cell Biology	✓																										✓																							
UR 204 Principles of Quality Assurance	✓																								✓																									

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UR 205 English language II	✓																																																
PA 303 Pharmaceutical Analytical Chemistry III	✓		✓								✓				✓																																		
PR 303 Pharmaceutical Organic Chemistry III	✓		✓								✓		✓		✓																																		
PG 303 Pharmacognosy II	✓		✓								✓				✓																																		
MD 303 Biophysics	✓																																																
MD 304 Physiology and Pathophysiology	✓																																																
PM 301 General Microbiology and Immunology	✓	✓																																															
PT 303 Pharmaceutics I	✓											✓			✓	✓																																	
PB 402 Biochemistry I	✓														✓																																		
PA 404 Instrumental Analysis	✓												✓		✓																																		
MD 405 Pathology	✓																																																
PT 404 Pharmaceutics II	✓											✓			✓	✓																																	
PO 401 Pharmacology I	✓			✓										✓																																			

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PR 404 Raw materials	✓		✓										✓																																		
NP 403 Scientific Writing and Communication skills	✓								✓														✓																								
NP 404 Pharmaceutical Legislations and Professional ethics	✓								✓														✓																								
PB 503 Biochemistry II	✓														✓												✓		✓																		
PM 502 Pharmaceutical Microbiology	✓	✓		✓											✓	✓												✓	✓	✓																	
PG 504 Phytochemistry I	✓		✓								✓		✓		✓																	✓															
PT 505 Pharmaceutics III	✓											✓			✓																																
PC 501 Medicinal Chemistry I	✓		✓								✓					✓																															
PO 502 Pharmacology II	✓			✓							✓																		✓	✓																	
PM 603 Parasitology and Virology	✓	✓		✓																								✓																			
PT 606 Pharmaceutics IV	✓											✓																																			
PT 607 Biopharmaceutics and Pharmacokinetics	✓													✓																																	



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PP 802 Hospital Pharmacy	✓							✓							✓																															
PT 809 Pharmaceutical Technology II	✓						✓					✓	✓																																	
PP 903 Clinical Pharmacy & Pharmacotherapeutics I	✓	✓		✓	✓					✓							✓		✓				✓						✓																	
PO 906 Drug Information	✓					✓	✓															✓	✓	✓																						
PP 904 Community Pharmacy Practice	✓							✓		✓							✓																													
PT 910 Good Manufacturing Practice	✓						✓					✓																																		
PA 905 Quality Control of Pharmaceuticals	✓		✓										✓		✓	✓																														
NP 905 Marketing & Pharmacoeconomics	✓																							✓	✓																					
MD 906 First Aid and Basic Life Support	✓									✓								✓																												
PG 007 Phytotherapy and Aromatherapy	✓			✓																																										
PT 011 Advanced Drug Delivery Systems	✓						✓							✓																																
PM 006 Public Health and Preventive Medicine	✓	✓																										✓																		

(Name and code)	1-1-1	1-1-2	1-1-3	1-1-4	1-1-5	1-1-6	1-1-7	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	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	4-1-1	4-1-2	4-1-3	4-2-1	4-2-2	4-3-1	4-3-2			
PP 005 Clinical pharmacy & Pharmacotherapeutics II	✓	✓		✓	✓					✓							✓		✓			✓							✓								✓								
PP 006 Drug Interaction	✓				✓														✓											✓	✓														
PP 007 Clinical Research methodology & Pharmacovigilance	✓																						✓								✓														
PO 007 Biostatistics	✓													✓																								✓							
UR 006 Entrepreneurship	✓																							✓													✓		✓						

**Elective Courses**

Courses	1-1-1	1-1-2	1-1-3	1-1-4	1-1-5	1-1-6	1-1-7	2-1-1	2-1-2	2-1-3	2-2-2	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	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	4-1-1	4-1-2	4-1-3	4-2-1	4-2-2	4-3-1	4-3-2				
PM E 07 Gene Regulation and Epigenetic	✓																										✓																			
PM E 07 Infection Control																✓												✓										✓								
PG E 08 Chromatography and Separation Techniques	✓		✓								✓				✓																							✓								
PG E 09 Analysis of Food and Flavor	✓		✓								✓		✓																																	
PA E 06 Advanced Pharmaceutical Analysis – Spectroscopy			✓								✓	✓																																		

(Name and code)	1-1-1-	1-1-2-	1-1-3-	1-1-4-	1-1-5-	1-1-6-	1-1-7-	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-	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-	4-1-1-	4-1-2-	4-1-3-	4-2-1-	4-2-2-	4-3-1-	4-3-2-								
PO E 08 Veterinary Pharmacology	✓	✓		✓													✓												✓												✓	✓								
PO E 09 Biological Standardization	✓					✓							✓									✓		✓																										
MD E 07 Bioinformatics	✓													✓													✓																							
PP E 08 Oncology	✓						✓										✓						✓						✓																					
PP E 09 Pediatrics & Geriatric	✓	✓		✓		✓											✓											✓																						
PT E 012 Cosmetic Preparations	✓											✓			✓	✓																																		
PT E 013 Applied Industrial Pharmacy	✓						✓						✓																																					
PB E 05 Clinical Nutrition					✓																						✓																							
Other Requirements																																																		
Preliminary Training	✓	✓		✓				✓	✓	✓		✓					✓		✓					✓	✓		✓																							
Obligatory Rotations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Drug Tour																																																		

(Name and code)	Elective Rotations			Applied Research Project	Institutional/Hospital Pharmacy	Clinical Pharmacy in Adult General Medicine
	Regulatory Inspection	Pharmacovigilance	Quality Management in Pharmaceutical Industry			
1-1-1	✓	✓	✓	✓	✓	✓
1-1-2	✓	✓			✓	✓
1-1-3	✓		✓			
1-1-4		✓			✓	✓
1-1-5					✓	✓
1-1-6	✓	✓		✓	✓	✓
1-1-7	✓	✓	✓	✓		
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						
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	✓	✓			✓	✓
4-1-1	✓	✓	✓	✓	✓	✓
4-1-2	✓	✓	✓	✓	✓	✓
4-1-3						
4-2-1	✓	✓	✓	✓	✓	✓
4-2-2	✓	✓		✓	✓	✓
4-3-1					✓	✓
4-3-2					✓	✓

(Name and code)		Quality by Design and Process Analytical Technology	Pharmaceutical Production	Pharmaceutical Sales & Marketing	Drug Discovery and Development
	1-1-1-	✓	✓	✓	✓
	1-1-2-			✓	
	1-1-3-	✓	✓		✓
	1-1-4-			✓	
	1-1-5-				✓
	1-1-6-	✓	✓		✓
	1-1-7-	✓	✓		
	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-			✓	
	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-				
	4-1-1-	✓	✓	✓	✓
	4-1-2-	✓	✓	✓	✓
	4-1-3-				
	4-2-1-	✓	✓	✓	✓
	4-2-2-	✓	✓	✓	✓
	4-3-1-				
	4-3-2-				

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

- |                          |                               |
|--------------------------|-------------------------------|
| 1. Lectures              | 8. Field training             |
| 2. Practical sessions    | 9. Self-learning              |
| 3. Case study            | 10. Electronic-based learning |
| 4. Role play             | 11. Problem solving           |
| 5. Simulation            | 12. Blended learning          |
| 6. Co-operative learning | 13. Flipped class             |
| 7. Brain-storming        |                               |

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

1. Written exam (periodical and final)
2. Practical exam
3. Oral exam
4. Activity (posters, presentation, report)
5. Field training (assessment by supervisors)

## 8. Program Key Performance Indicators (if any)

No.	Performance Indicator	Target Level	Method	Measurement Timing
<b>1.</b>	<b>Statistics</b>			
-	Graduation /completion rate	<b>≥ 70 %</b>	Student results	The end of obligatory training year
-	Success rate	<b>≥ 80%</b>	Student results	
<b>2.</b>	<b>Stakeholder satisfaction</b>			
<b>3.</b>	Student satisfaction with the program	<b>≥ 70 %</b>	Questionnaire	By the end of obligatory training year

No.	Performance Indicator	Target Level	Method	Measurement Timing
-	Student satisfaction with clinical training rotation	$\geq 70\%$	Questionnaire	The end of rotation
-	Student satisfaction with graduation project rotation	$\geq 70\%$	Questionnaire	The end of rotation
-	Fresh graduate Satisfaction with the program	$\geq 70\%$	Questionnaire	Six months after graduation
-	Staff members satisfaction with the program	$\geq 70\%$	Questionnaire	After student graduation
-	Labor market Satisfaction with the graduate	$\geq 70\%$	Questionnaire	Six months after graduation
-	Training sites satisfaction with training rotations	$\geq 70\%$	Questionnaire	By the end of rotations
-	Supervisors' satisfaction with training rotations	$\geq 70\%$	Questionnaire	By the end of rotations

**Name & Signature**  
**Vice Dean for Education and Student Affairs**