

Bachelor in Pharmacy-Pharm D Program Specifications

University: Beni-Suef

Faculty: Pharmacy

Department: General program

Program Specifications

(Year 2024-2025)

A- Basic information:

1- Program Name: Bachelor in Pharmacy-Pharm D

2- Program type: Single

3- Department (s): General program

- Department of Pharmaceutics and Industrial Pharmacy
- Department of Pharmacognosy
- Department of Pharmacology & Toxicology
- Department of Pharmaceutical Microbiology & Immunology
- Department of Pharmaceutical Organic Chemistry
- Department of Pharmaceutical Analytical Chemistry
- Department of Biochemistry
- Department of Medicinal Chemistry
- Department of Clinical Pharmacy

4- Last date of program specification approval:

B- Specialized information:

Program Aims:

The graduates of the Faculty of Pharmacy, Beni-Suef University should acquire the necessary attributes related to various pharmacy aspects including drug-oriented and patient-oriented pharmacy disciplines to actively participate in pharmaceutical care. Pharmacy graduate must be able to:

1. Educate and counsel individuals and communities to participate in optimizing therapeutic outcomes and minimizing the incidence of illness of individuals and populations.
2. Practice and perform responsibilities and authorities legally, professionally, and ethically respecting patients' rights.
3. Utilize evidence-based data to deliver contemporary pharmaceutical products and pharmacy

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. Learning Outcomes (LOs):

Domain 1- Fundamental Knowledge

1-1- Competency

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

- 1-1-1- Demonstrate understanding of knowledge of pharmaceutical, biomedical, social, behavioral, administrative, and clinical sciences.
- 1-1-2- Utilize the proper pharmaceutical and medical terms, abbreviations and symbols in pharmacy practice.
- 1-1-3- Integrate knowledge from fundamental sciences to handle, identify, extract, design, prepare, analyze, and assure quality of synthetic/natural pharmaceutical materials/products.
- 1-1-4- Articulate knowledge from fundamental sciences to explain drugs' actions and evaluate their appropriateness, effectiveness, and safety in individuals and populations.
- 1-1-5- Retrieve information from fundamental sciences to solve therapeutic problems.
- 1-1-6- Utilize scientific literature and collect and interpret information to enhance professional decision.
- 1-1-7- Identify and critically analyze newly emerging issues influencing pharmaceutical industry and patient health care.

Domain 2: Professional and Ethical Practice

2-1- Competency

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

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

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

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

2-2- Competency

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

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

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

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

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

2-3- Competency

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

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

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

2-4- Competency

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

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

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

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

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

2-5- Competency

Contribute in pharmaceutical research studies and clinical trials needed to authorize medicinal products.

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

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

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

2-6- Competency

Perform pharmacoeconomic analysis and develop promotion, sales, marketing, and business administration skills.

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

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

Domain 3: Pharmaceutical Care

3-1- Competency

Apply the principles of body functions to participate in improving health care services using evidence-based data.

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

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

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

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

3-2- Competency

Provide counseling and education services to patients and communities about safe and rational use of medicines and medical devices.

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

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

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

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

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

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

Domain 4: Personal Practice

4-1- Competency

Express leadership, time management, critical thinking, problem solving, independent and team working, creativity and entrepreneurial skills.

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

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

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

4-2- Competency

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

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

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

4-3- Competency

Express self-awareness and be a life-long learner for continuous professional improvement.

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

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

1. Academic standards: National Academic References (NARS 2017)

2. External references for standards (Benchmarks)

3. Curriculum Structure and Contents:

a) Program duration: 5+1 years divided in 10 semesters + 1 Internship year

a) Program Structure:

• No of hours per	Lectures		Lab./Exercise		Total	
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week:	Compulsory	167	Elective	8	Optional	--
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• University requirements:	6	3.4 %
• Faculty requirements:	161	92 %
• Elective courses:	8	4.57 %
• Other Courses:	--	0 %

• Practical/field training:	Initial field training and advanced field training (internship year): A- First field training: The student must complete a first field training period with a total of 100 actual training hours in private and government pharmacies and hospital pharmacies approved by the College Council, this is under the supervision of a faculty member and training takes place during summer vacations for years study after the end of the third level and before starting the internship year. B- Advanced field training (internship year) - The student must complete the internship year (an academic year meaning 9 months) after completing academic years with training in human and veterinary pharmaceutical companies, factories and companies of medical supplies, devices, cosmetics and supplements food, herbs, medicinal plants, disinfectants and pesticides distribution companies and drug stores, local and international drug control (MOH-CAPA-NODCAR-...;WHO, FDA, EMA..etc), centers of pharmaceutical and medical research, bioavailability, and clinical studies (CROs-) Media, pharmaceutical marketing, etc., in addition to hospitals and pharmacies private and governmental. Those who wish to specialize in the academic field can (Teaching and Research) spend a training period in colleges of pharmacy or research centers. The training program must include one clinical training course.
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b) Program Levels (in credit-hours system):

Compulsory	167	Elective	8	Optional	0
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- First Level/ First Year: 34 credit hours distributed as follow:

Compulsory	34	Elective	--	Optional	--
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- Second Level/ Second Year: 33 credit hours distributed as follow:

Compulsory	33	Elective	--	Optional	--
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- Third Level/ Third Year: 36 credit hours distributed as follow:

Compulsory	36	Elective	--	Optional	--
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- Fourth Level/ Fourth Year: 37 credit hours distributed as follow:

Compulsory	33	Elective	4	Optional	--
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- Fifth Level/ Fifth Year: 35 credit hours distributed as follow:

Compulsory	31	Elective	4	Optional	--
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c) Program Courses:

a. Compulsory:

	Course Code	Courses Title	Total credit hours	No. of hours/ Week		Level	Semester
				Lec.	Lab.		
1.	PAC 101	Pharmaceutical Analytical Chemistry I	3	2	1	1	1
2.	POC 101	Pharmaceutical Organic Chemistry I	3	2	1	1	1
3.	PT 101	Pharmacy Orientation	1	1	0	1	1
4.	PG 101	Medicinal Plants	3	2	1	1	1
5.	MD 101	Medical Terminology	1	1	0	1	1
6.	EN 101	English Language	1	1	0	1	1
7.	NP 101	Information Technology	2	1	1	1	1
8.	MS 101	Mathematics	1	1	0	1	1
9.	NP 102	Human Rights and Fighting Corruption	1	1	0	1	1
10.	PAC 202	Pharmaceutical Analytical Chemistry II	3	2	1	1	2
11.	POC 202	Pharmaceutical Organic Chemistry II	3	2	1	1	2
12.	PM 201	Cell Biology	2	1	1	1	2
13.	MD 202	Anatomy& Histology	3	2	1	1	2
14.	PT 202	Physical Pharmacy	3	2	1	1	2
15.	PG 202	Pharmacognosy I	3	2	1	1	2
16.	MD 203	Psychology	1	1	0	1	2
17.	PAC 303	Pharmaceutical Analytical Chemistry III	2	1	1	2	3
18.	POC 303	Pharmaceutical Organic Chemistry III	3	2	1	2	3
19.	NP 303	Scientific Writing	2	1	1	2	3
20.	PG 303	Pharmacognosy II	3	2	1	2	3
21.	MD 304	Physiology and Pathophysiology	3	2	1	2	3
22.	PT 303	Pharmaceutics I	3	2	1	2	3

	Course Code	Courses Title	Total credit hours	No. of hours/ Week		Level	Semester
				Lec.	Lab.		
23.	PB 401	Biochemistry I	3	2	1	2	4
24.	PM 402	General Microbiology and Immunology	3	2	1	2	4
25.	PAC 404	Instrumental Analysis	3	2	1	2	4
26.	MD 405	Pathology	2	1	1	2	4
27.	PT 404	Pharmaceutics II	3	2	1	2	4
28.	NP 404	Communication skills	1	0	1	2	4
29.	PO 401	Biostatistics	2	2	0	2	4
30.	PB 502	Biochemistry II	3	2	1	3	5
31.	PM 503	Pharmaceutical Microbiology	3	2	1	3	5
32.	PG 504	Phytochemistry I	3	2	1	3	5
33.	PT 505	Pharmaceutics III	3	2	1	3	5
34.	PMC 501	Medicinal Chemistry I	3	2	1	3	5
35.	PO 502	Pharmacology I	3	2	1	3	5
36.	PM 604	Parasitology and Virology	3	2	1	3	6
37.	PT 606	Biopharmaceutics and Pharmacokinetics	3	2	1	3	6
38.	PG 605	Phytochemistry II	3	2	1	3	6
39.	PT 607	Pharmaceutics IV	3	2	1	3	6
40.	PO 603	Pharmacology II	3	2	1	3	6
41.	PMC 602	Medicinal Chemistry II	3	2	1	3	6
42.	PM 705	Medical Microbiology	3	2	1	4	7
43.	PO 704	Pharmacology III	3	2	1	4	7
44.	PG 706	Applied & Forensic Pharmacognosy	2	1	1	4	7
45.	PMC 703	Drug Design	2	1	1	4	7
46.	PB 703	Clinical Biochemistry	3	2	1	4	7
47.	PT 708	Pharmaceutical Technology I	3	2	1	4	7
48.	NP 705	Pharmaceutical Legislations and Regulatory Affairs	1	1	0	4	7
49.	PP 801	Clinical Pharmacokinetics	3	2	1	4	8
50.	PP 802	Drug Information	2	1	1	4	8
51.	PO 805	Basic & Clinical Toxicology	3	2	1	4	8
52.	PP 803	Hospital Pharmacy	2	1	1	4	8
53.	PT 809	Pharmaceutical Technology II	3	2	1	4	8
54.	PP 804	Community Pharmacy Practice	3	2	1	4	8
55.	PM 906	Biotechnology	3	2	1	5	9

	Course Code	Courses Title	Total credit hours	No. of hours/ Week		Level	Semester
				Lec.	Lab.		
56.	PP 905	Clinical pharmacy I	3	2	1	5	9
57.	PM 907	Public Health	2	2	0	5	9
58.	PG 907	Phytotherapy and Aromatherapy	3	2	1	5	9
59.	PT 910	Good Manufacturing Practice	2	1	1	5	9
60.	NP 906	Marketing & Pharmacoeconomics	2	2		5	9
61.	PAC 005	Quality Control of Pharmaceuticals	3	2	1	5	10
62.	MD 006	First Aid	2	1	1	5	10
63.	PO 006	Drug interaction	2	1	1	5	10
64.	PT 011	Advanced Drug Delivery Systems	2	1	1	5	10
65.	PP 006	Clinical Pharmacy II & Pharmacotherapeutics	2	1	1	5	10
66.	NP 007	Entrepreneurship	2	1	1	5	10
67.	PP 007	Clinical Research, Pharmacoepidemiology and & Pharmacovigilance	2	1	1	5	10
68.	NP 008	Professional Ethics	1	1	0	5	10

b. Elective:

	Code No.	Course Title	Total credit hours	No. of hours/week		Level	Semester
				Lect.	Lab.		
1.	PAC E06	Advanced Pharmaceutical Analysis	2	1	1	4/5	7/8/9/10
2.	PG E08	Production and Manufacture of Medicinal Plants	2	1	1	4/5	7/8/9/10
3.	PG E09	Chromatography and Separation Techniques	2	1	1	4/5	7/8/9/10
4.	PG E10	Alternative Medicinal Therapies	2	1	1	4/5	7/8/9/10
5.	PM E08	Antimicrobial stewardship	2	1	1	4/5	7/8/9/10
6.	PM E09	Infection Control	2	1	1	4/5	7/8/9/10
7.	PM E10	Bioinformatics	2	1	1	4/5	7/8/9/10
8.	PM E11	Gene regulation and epigenetics	2	1	1	4/5	7/8/9/10
9.	PM E12	Proteomics	2	1	1	4/5	7/8/9/10
10.	PO	Biological Standardization	2	1	1	4/5	7/8/9/10

	E07						
11.	PO E08	Veterinary Pharmacology	2	1	1	4/5	7/8/9/10
12.	POC E04	Advanced Drug Structural Determination	2	1	1	4/5	7/8/9/10
13.	PP E08	Clinical nutrition	2	1	1	4/5	7/8/9/10
14.	PT E12	Quality Assurances and GMP	2	1	1	4/5	7/8/9/10
15.	PT E13	Applied Industrial Pharmacy	2	1	1	4/5	7/8/9/10
16.	PT E14	Cosmetic Preparations	2	1	1	4/5	7/8/9/10

c. Optional: -----

See course specification

4. Courses Contents:

5. program admission requirements:

General Secondary School Certificate from Science section (including Biology and Chemistry subjects), or an equivalent certificate from a foreign institute recognized by the university.

Admission criteria:

The faculty accepts the following:

- A satisfactory standard in Chemistry and at least one other science subject, especially biology.

6. Regulations for progression and program completion:

To be graduated, a student should earn 175 credit hours for at least 5 years in addition to 100 hours of training in community pharmacies, governmental hospital pharmacies that are approved by faculty committee under supervision of one faculty staff member.

– Student is eligible to the **Honors** degree if his grade is not less than **Very Good** in all years.

❖ Degree of classification

- Marks from the first to the fifth year are cumulative so the determination is for overall marks of the degree.
- The final overall marks evaluate the degree of classification as follows:

Marks	Points	Grade	Degree
Equal or more than 95	4	A+	Excellent
From 90 to less than 95	3.85	A	
From 85 to less than 90	3.7	A-	
From 82.5 to less than 85	3.3	B+	Very Good
From 77.5 to less than 82.5	3	B	
From 75 to less than 77.5	2.7	B-	
From 72.5 to less than 75	2.3	C+	Good
From 67.5 to less than 72.5	2	C	
From 65 to less than 67.5	1.7	C-	
From 62.5 to less than 65	1.3	D+	Fair
From 60 to less than 62.5	1	D	

Less than 60	0.00	F	Fail
Withdraw	-	W	Withdraw
Incomplete	-	I*	Incomplete
Absent	-	Abs E**	Absent

❖ **By laws and regulations for Undergraduate Students:**

- A student is considered academic failure if he obtains a semester average (GPA) less than “1”.
- A student who obtains a semester average (GPA) less than “1” for six continuous semesters or ten non-continuous semesters is dismissed from the college after the approval of the College Board and the summer semesters, if any, are not taken into consideration. A student is considered to have dropped out of studies if he did not register for a semester or withdrew from the semester, whether with or without an excuse.
- A student may interrupt two consecutive semesters or three non-consecutive semesters as a maximum subject to obtain the approval of the College Board, and in the event that it is interrupted for a longer period than that without an excuse, it is accepted by the College Board and approved by the University Council and the texts contained in the Executive Regulations of the Universities Organization Law shall apply to it.

7. Assessment methods and rules for evaluation of program students:

No.	Method of assessment	Measurable ILOS
1	None graded assignment-Online quizzes	Fundamental Knowledge, Professional and Ethical Practice, Pharmaceutical care, Personal Practice
2	Written exam	Fundamental Knowledge, Professional and Ethical Practice, Pharmaceutical care
3	Oral exam	Fundamental Knowledge, Professional and Ethical Practice, Pharmaceutical care
4	Practical exam	Professional and Ethical Practice, Personal Practice
5	Class participation	Personal Practice
6	Term periodic exams	Knowledge and intellectual skills, Professional and Ethical Practice, Pharmaceutical care

8. Methods of evaluation of program:

No.	Evaluator	Tool	Sample
1	Senior Students	Questionnaire	10%
2	Alumni	Questionnaire	10%
3	Stakeholders - Business sector - Industry sector	Questionnaire Personal interviews	Approximate sample
4	External Evaluator(s) (External Examiner(s)) [if any]	Test reviews	Approximate sample
5	Others	Personal interviews	All participants in the program

Program Coordinator: Dr. Mohamed Ahmed Tohamy

Signature:

Date: 9 / 2024