جامعة هليوبوليس
Heliopolis University

Faculty of Pharmacy

Program Specification

2020-2021

PRGRAM COORDINATOR: ASSO. PROF. DR. AHMED ABULSOUD

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Program Specification

A- Basic Information:

1- **Program Title:** Bachelor of Pharmaceutical Sciences and Drug Technology

2- **Program type:** Single

3- **Departments responsible of the program:**

a. Department of Chemistry
b. Department of Pharmacogonsy
c. Department of Pharmaceutics and pharmaceutical Technology
d. Department of Pharmacology and Toxicology
e. Department of Biochemistry
f. Department of Microbiology and Immunology
g. Department of Pharmacy Practice

Other University Requirement courses (Core program courses) and Business related courses are provided from faculties of Arts and Business Administration.

4- **Date of approval of Program specification by the Faculty Council:** Approved on 20/9/2020.

5- **Coordinator:** Ass. Prof. Dr. Ahmed Abulsoud, Vice Dean of Faculty of Pharmacy.

6- **External evaluation:** Prof. Dr. Maha Abu Shadi, Ex-Vice Dean for Post Graduate Studies Affairs, Ex-Director of Quality Assurance Unit and Professor of Microbiology and Immunity, Faculty of Pharmacy (Girls), Al-Azhar University.

B- Professional Information:

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 interprofessional 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- Program aims:

The program of Pharmaceutical Sciences and Drug Technology aims to give students the basic knowledge, skills, attitudes and values to practice pharmacy independently at the time of graduation and encourage continuous self-learning hereafter in order to enrich the Egyptian pharmaceutical sector and society with capable and skilled pharmacists. The program ensures that graduates acquired attributes of:

I. The inclusive illustration of pathophysiology of diseases and collaboration with other health care team in order to provide the community with improved health care services using evidence-based data. (1)

II. Communicating and collaborating with patients, care givers and other members of the community to provide information on the rational use of medications and the progress of therapy programs. (1,7)

III. Appropriate practicing pharmacy profession effectively in various pharmaceutical and health care settings as community and hospital practices, research institutes,

clinical labs and pharmaceutical firms in compliance with legal, ethical and professional rules. (2,8)

IV. The utilization of evidence based data in preparing and formulating pharmaceutical products from different sources (natural/synthetic); and choosing the appropriate dispensing, storage and distribution methods of medications. (3)

V. Promoting the availability of safe and effective therapeutic agents through the ability to apply qualitative and quantitative techniques in quality control.(4)

VI. Assessing the suitability, effectiveness and safety of medications through utilizing integrated evidence based pharmaceutical and clinical information. (5)

VII. Appropriate methodologies selection to plan and conduct researches. (6)

VIII. The illustration of communication, time management, critical thinking, leadership, problem solving, decision-making, team-working, business administration, entrepreneurial and application of computation and numeric skills. (7, 8)

IX. Self-profession assessment and improvement by continuous and lifelong learning in all fields. (9)

X. Demonstrating performance appraisal of self-assessment skills. (9)

Matrix of Program Aims versus NARS 2017 attributes of pharmacy graduate:

	Attributes of graduates (NARS 2017)								
Aims	1	2	3	4	5	6	7	8	9
I.	X								
II.	X						X		
III.		X						X	
IV.			X						
V.				X					
VI.					X				
VII.						X			
VIII.							X	X	
IX.									X
X.									X

2- Program Learning Outcomes:

The program learning outcomes are derived from the competency-based NARS for Pharmacy Education -2017 (12 competencies for the four domains and their 42 key elements)

N.B: Numbering system: first number stands for Domain; second number stands for Competency; third number stands for Key Element; fourth number stands for Program Learning Outcome.

Domain 1: Fundamental Knowledge

1-1-1-1 Compile knowledge of basic, applied and pharmaceutical sciences in material preparation, standardization, formulation, and/or manufacture of products.

1-1-1-2 Demonstrate knowledge of biomedical, administrative clinical sciences, behavioral and social sciences to deliver population and patient centered care.

1-1-1-3 Demonstrate knowledge outline for writing skills in their field of specialization.

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

1-1-3-1 Recall knowledge for analysis and assuring quality of synthetic/natural pharmaceutical materials/products.

1-1-3-2 Integrate knowledge from fundamental sciences to handle, identify, extract, purify, standardize, synthetic/natural pharmaceutical materials/products.

1-1-3-3 Compile basic knowledge in the design, development, and preparation pharmaceutical materials/products.

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

1-1-5-1 Retrieve information from fundamental sciences and identify different cellular, anatomical, pathological and physiological human structures to solve therapeutic problems.

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

1-7-1-1 Identify and critically analyze information about newly emerging issues, as new discoveries, drugs, epidemics, social and cultural influencing the pharmaceutical industry and patient health care.

Domain 2: Professional and Ethical Practice

2-1-1-1 Adopt the different roles and responsibilities of a pharmacist as a professional health care member to improve the quality of life for people and community.

2-1-1-2 Perform responsibilities and authorities in compliance with the legal and professional structure.

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

2-1-3-1 Make use of laws defining personal and professional limitations and accept referral or guidance from other members of the health care team.

2-2-1-1 Develop, analyze and determine synthetic/natural pharmaceutical materials.

2-2-1-2 Apply identification, isolation, purification and standardization procedures of synthetic/natural pharmaceutical materials.

2-2-1-3 Plan designing and synthesis of pharmaceutical materials from natural / synthetic origin.

2-2-1-4 Apply the principles of molecular modeling tools in computer aided drug design.

2-2-2-1 Apply the basic requirements of quality management systems in developing, manufacturing, analyzing, storing, and distributing pharmaceutical materials/ products.

2-2-2-2 Inspect the effect of various incompatibilities on developing, manufacturing, analyzing, storing, and distributing pharmaceutical materials/ products.

2-2-3-1 Select the proper techniques for identification, synthesis, analysis of different materials, and production of pharmaceuticals, in addition to identification of the principles of tools and instruments.

2-2-3-2 Apply new techniques as molecular biology for production of pharmaceuticals and biopharmaceuticals.

2-2-4-1 Apply the principles of pharmaceutical calculations pharmacokinetics, and bio-pharmaceutics in new drug delivery systems.

2-2-4-2 Apply biostatistical analysis, bioinformatics, pharmacokinetics, and bio-pharmaceutics in dose modification, bioequivalence studies, and pharmacy practice.

2-3-1-1 Select the proper methods for handling, identification, and disposal of different materials including chemicals, glassware, pathological samples and biotechnology-based materials used in the pharmaceutical field.

2-3-2-1 Apply handling and disposal of biologicals (including, experimental animals, cultures of microorganisms), and pharmaceutical materials/products according to ethical, legal, and safety guidelines.

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

2-4-2-1 Make use of first aid measures needed to save a patient's life.

2-4-3-1 Solve problems related to medicines and/or pharmaceutical care.

2-4-4-1 Assess toxicity profiles of different xenobiotics and Analyze poisons in biological specimens to effectively work in forensic field.

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

2-5-2-1 Recall, evaluate and interpret evidence-based information and formulate effective response needed in the pharmacy profession, based on systematic approaches.

2-5-3-1 Utilize appropriate methodologies in planning and conducting pharmaceutical research studies.

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

2-6-2-1 Utilize the principles of drug promotion, sales, marketing, accounting, and pharmacoeconomic analysis.

Domain 3: Pharmaceutical Care

3-1-1-1 State the physiological pathways of normal and abnormal functions of human cells and body systems and their applications in treatment of different diseases.

3-1-1-2 Explain basis of genomics and their relation to different diseases and their therapeutic application.

3-1-1-3 Discuss the different biochemical pathways and their relation to different diseases to manage their treatment.

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

3-1-3-1 Analyze biological and non-biological specimens using different laboratory techniques and procedures.

3-1-3-2 Choose appropriate methods for monitoring and controlling microbial growth in different products.

3-1-3-3 Utilize different testing procedures for identification and classification of microorganisms and their infection control methods including immunization.

3-1-4-1 Selection of the proper treatment protocol based on etiology, epidemiology, pathophysiology, laboratory tests and clinical features.

3.1.4.2 Predict the proper herbal remedy for patients based on pathophysiology of the disease.

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

3-2-2-1 Apply the principles of clinical pharmacology and pharmacovigilance for the rational use of medicines and medical devices.

3-2-3-1 Justify safety measures in the use of complementary medicine, including phytotherapy, aromatherapy, and nutraceuticals, according to evidence-based information.

3-2-4-1 Assess drugs and xenobiotics toxicity profiles, including sources, identification, symptoms and management control.

3-2-5-1 Make use of information about safe and proper use of medicines including OTC preparations and medical devices in educating and counseling patients and communities.

3-2-6-1 Provide counseling information to the public on the health hazards associated with drug misuse and abuse.

Domain 4: Personal Practice

4-1-1-1 Demonstrate leadership skills in managing team performance and peer evaluation of other team members.

4-1-1-2 Illustrate time management skills.

4-1-2-1 Recall information from different sources to improve pharmacy practice.

4-1-2-2 Demonstrate critical thinking to solve problems and suggest a feasible solution for them.

4-1-2-3 Work autonomously and effectively in a team.

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

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

4-2-2-1 Use contemporary technologies and media to demonstrate effective presentation skills.

4-3-1-1 Make use of self-assessment, self awareness to enhance professional and personal competencies.

4-3-2-1 Apply life-long independent learning needed for continuous professional development.

3- Academic Standards:

National academic references standards for pharmacy (NARS 2017) set by the National Authority for Quality Assurance and Accreditation of Education in Egypt (https://naqaae.eg/wp-content/uploads/2014/10/NARS-Pharmacy-final-version.pdf) were adopted as academic standards for the program (Faculty council No. 48 on 23rd of January 2019) Program outcomes vs. NARS key elements, and Program outcomes vs. Program courses association matrices were constructed (Appendices 1 and 2).

4- External Reference Standards and bench marks: Not present.

5- Program Structure and components:

a. Program duration: **Five academic years**.

b. Curriculum structure

Credit hours: 180 credit hours

- Theoretical and practical credit hours distribution

					Credit hours
Theoretical hours [1]:	117	Practical hours [2]:	63	Total	180

- Mandatory and elective credit hours distribution

Mandatory hours:	165	Elective hours:	15	Total	180
Faculty Requirement	153	Faculty Requirement	9		162
University Requirement	12	University Requirement	6		18

[1] Theoretical hours = 104 (faculty lectures for mandatory courses) + 6 (faculty lectures for elective courses) + 4 (university requirements lectures for mandatory courses) + 3 (university requirements lectures for elective courses)

[2] Practical hours = 49 (faculty labs for mandatory courses)+ 3 (faculty labs for elective courses) + 8 (university requirements tutorials for mandatory courses) + 3 (university requirements tutorials for elective courses)

Suggested Program structure:

		Number of subjects	Credit hours
1	Basic Sciences	9	21
2	Pharmaceutical Sciences	26	66
3	Medical Sciences	13	39
4	Pharmacy Practice	13	24
5	Health & environmental Sciences	9	15
6	Behavioral & Social Sciences	8	8
7	Pharmacy Management	5	7

Comparison between NARS Curriculum Structure and Faculty of Pharmacy, Heliopolis University Curriculum Structure:

Faculty of Pharmacy, Heliopolis University			
Sciences	**Subjects**	**Sciences**	**Subjects**
Basic	Physical, organic and analytical chemistry, biology, biophysics, computer science, mathematics.	**Basic** **(21CHr/180CHr)**	General and Physical Chemistry Organic Chemistry 1 Academic English writing 1 Analytical Chemistry 1 Organic Chemistry 2 General biology Academic English writing 2 Analytical chemistry 2 German Language 1
Pharmaceutical	Pharmacy Orientation, Medical & Pharmaceutical Terminology, Pharmaceutics, Physical Pharmacy, Industrial Pharmacy, Pharmaceutical Technology, Biopharmaceutics, Pharmacokinetics, Pharmaceutical Chemistry, Pharmacognosy, Pharmaceutical microbiology, Molecular biology, Pharmaceutical biotechnology, Quality Assurance And Quality Control, Instrumental Analysis, Biological Drug Assay.	**Pharmaceutical** **(66CHr/180CHr)**	Pharmacy Orientation Botany Medical Terminology Physical Pharmacy Pharmacognosy 1 Pharmaceutics 1 Pharmacognosy 2 Pharmaceutics 2 Phytochemistry 1 Pharmaceutical Microbiology Pharmaceutics 3 Phytochemistry 2 Instrumental Analysis Industrial Pharmacy Quality Control of herbal drugs Pharmaceutical biotechnology 1 Medicinal Chemistry 1 Pharmaceutical biotechnology 2 Medicinal Chemistry 2 New Drug delivery systems Drug design of natural products Quality Control Drug quality assurance Practice in Industrial Pharmacy Biopharmaceutics and Pharmacokinetics Phytotherapy

Faculty of Pharmacy, Heliopolis University			
Sciences	**Subjects**	**Sciences**	**Subjects**
Medical	Anatomy, Histology, Physiology, Pathology, Biochemistry, Parasitology, Pharmacology, Clinical Pharmacology, Therapeutics, Medical Microbiology, Immunology And Virology.	**Medical** **(39CHr/180CHr)**	Human anatomy and histology Human physiology Microbiology and immunology Biochemistry 1 Pharmacology 1 Biochemistry 2 Pharmacology 2 Medical microbiology Pharmacology 3 Pharmacotherapy 1 Clinical biochemistry Pharmacotherapy 2 Pharmacotherapy 3
Pharmacy Practice	Pharmaceutical Care and Professional Pharmacy, (Clinical, Hospital, Community …etc), Complementary and alternative medicine, Drug and poison Information, Pharmacy Laws and regulations.	**Pharmacy Practice** **(24CHr/180CHr)**	Research methodology Practice in community pharmacy Pharmacy practice 1 Pharmacy practice 2 Pharmacy legislation Professional experience in hospital Graduation project part 1 Clinical trials Graduation Project part 2 Drug design and discovery Pharmacy skills* Complementary and alternative medicine* Psychology#
Health And Environmental	Public Health, Egyptian health system and its policies, Biostatistics, Healthy Life Style, Toxicology, Forensic Medicine, First Aid And Emergency Medicine	**Health And Environmental** **(15CHr/180CHr)**	Pharmaceutical biostatistics Health care systems Toxicology and forensic medicine Public health Sustainable development First aid Ethics of biotechnology* Sociology# Deep ecology#
Behavioral and Social	Psychology, Communications, Social and administrative pharmacy, Pharmacy Ethics.	**Behavioral and Social** **(8CHr/180CHr)**	Perception actuality Arabic literature Philosophy Art creative process Human rights and politics Culture and history Communication through art Communication skills#

Faculty of Pharmacy, Heliopolis University			
Sciences	**Subjects**	**Sciences**	**Subjects**
Pharmacy management	Sales, Marketing And Drug Promotion, Pharmaceutical Business Administration, Pharmacoeconomics.	**Pharmacy management (7CHr/180CHr)**	Pharmacy management Creativity and entrepreneurs Pharmacoeconomics Practicing individual presence# Diversity interaction#

* Selected course from faculty of pharmacy elective courses considering specified category.
# Selected course from university requirement elective courses considering specified category.

c. Program Levels:

Study level	Student level	Percentage of the earned credit hours
0	Freshman	From 0% to 20%
1	Sophomore	From 20% to 40%
2	Junior	From 40% to 60%
3	Senior 1	From 60% to 80%
4	Senior 2	From 80% to 100%

d. Program Courses:

Serial	Course Code	Prerequisite	Course Title	Credit Hours	Weekly Hours			Year / Level*	Semester*
					Theoretical	Practical	Tutorial		
A- Mandatory Courses									
1	3100	Registration	General and physical chemistry	3	2	2		First year / 0	Fall
2	3300	Registration	Pharmacy orientation	1	1	0		First year / 0	Fall
3	3200	Registration	Botany	3	2	2		First year / 0	Fall
4	3101	Registration	Organic chemistry 1	4	3	2		First year / 0	Fall
5	3400	Registration	Human anatomy & Histology	3	2	2		First year / 0	Fall

Serial	Course Code	Prerequisite	Course Title	Credit Hours	Weekly Hours			Year / Level*	Semester*
					Theoretical	Practical	Tutorial		
6	3401	Registration	Medical Terminology	2	2			First year / 0	Fall
7	3111	3101	Organic chemistry 2	3	2	2		First year / 0	Spring
8	3211	3200	Pharmacognosy 1	3	2	2		First year / 0	Spring
9	3311	3300	Physical pharmacy	3	2	2		First year / 0	Spring
10	3112	3100	Analytical chemistry 1	3	2	2		First year / 0	Spring
11	3412	3400	Human physiology	2	2			First year / 0	Spring
12	3520	Registration	General biology	2	2			First year / 0	Spring
13	3620	3401	Microbiology and immunology	4	3	2		Second year / 1	Fall
14	3720	Registration	Pharmacy management	2	2			Third year / 2	Spring
15	3221	3211	Pharmacognosy 2	3	2	2		Second year / 1	Fall
16	3322	3311	Pharmaceutics 1	3	2	2		Second year / 1	Fall
17	3122	3112	Analytical chemistry 2	3	2	2		Second year / 1	Fall
18	3630	3620	Pharmaceutical microbiology	3	2	2		Second year / 1	Spring
19	3531	3101	Biochemistry 1	3	2	2		Second year / 1	Fall
20	3731	Registration	Research methodology	1	1			Second year / 1	Spring
21	3332	3322	Pharmaceutics 2	3	2	2		Second year / 1	Spring
22	3232	3221	Phytochemisrty 1	3	2	2		Second year / 1	Spring
23	3132	3122	Instrumental analysis	3	2	2		Third year / 2	Fall
24	3640	3630	Medical microbiology	3	2	2		Third year / 2	Fall
25	3541	3531	Biochemistry 2	3	2	2		Second year / 1	Spring
26	3242	3221	Phytochemistry 2	3	2	2		Third year / 2	Fall
27	3342	3332	Pharmaceutics 3	3	2	2		Third year / 2	Fall
28	3443	3531	Pharmacology 1	3	2	2		Second year / 1	Spring
29	3551	3541	Clinical biochemistry	3	2	2		Fourth	Spring

Serial	Course Code	Prerequisite	Course Title	Credit Hours	Weekly Hours			Year / Level*	Semester*
					Theoretical	Practical	Tutorial		
								year / 3	
30	3552	3541	Pharmaceutical biotechnology 1	2	2			Third year / 2	Spring
31	3752	3720	Pharmacy legislation	1	1			Fourth year / 3	Spring
32	3153	3111	Medicinal chemistry 1	3	2	2		Third year / 2	Spring
33	3453	3443	Pharmacology 2	3	2	2		Third year / 2	Fall
34	3353	3332	Biopharmaceutics and pharmacokinetics	3	2	2		Fourth year / 3	Spring
35	3253	3132	Quality control of herbal drugs	3	2	2		Third year / 2	Spring
36	3562	3552	Pharmaceutical biotechnology 2	2	2			Fourth year / 3	Fall
37	3763	3720	Health care systems	1	1			Fifth year / 4	Fall
38	3463	3443	Pharmacology 3	3	2	2		Fourth year / 3	Fall
39	3163	3153	Medicinal chemistry 2	3	2	2		Fourth year / 3	Fall
40	3764	3453	Pharmacy practice 1	3	2	2		Third year / 2	Spring
41	3765	3453	Pharmacotherapy 1	3	2	2		Fourth year / 3	Fall
42	3473	3453	Toxicology and forensic medicine	3	2	2		Fifth year / 4	Spring
43	3274	3242	Phytotherapy	2	1	2		Fourth year / 3	Spring
44	3774	3764	Pharmacy practice 2	3	2	2		Fourth year / 3	Fall
45	3374	3342	Industrial Pharmacy	3	2	2		Third year / 2	Spring
46	3775	3765	Pharmacotherapy 2	3	2	2		Fourth year / 3	Spring
47	3778	3764	Practice in community Pharmacy	2		4		Third year / 2	Fall
48	3681	3640	Public health	3	2	2		Fifth year / 4	Spring
49	3781	3720	Pharmacoeconomics	2	2			Fifth year / 4	Fall

Serial	Course Code	Prerequisite	Course Title	Credit Hours	Weekly Hours			Year / Level*	Semester*
					Theoretical	Practical	Tutorial		
50	3483	3453	Pharmaceutical biostatistics	1	1			Fifth year / 4	Fall
51	3385	3342	New drug delivery system	3	2	2		Fifth year / 4	Fall
52	3285	3253	Drug design of natural products	1	1			Fifth year / 4	Fall
53	3785	3765	Pharmacotherapy 3	3	2	2		Fifth year / 4	Fall
54	3788	3374	Practice in pharmaceutical industry	2		4		Fourth year / 3	Fall
55	3789	3764	Graduation project part 1	1		2		Fifth year / 4	Fall
56	3192	3132	Quality control	2	1	2		Fifth year / 4	Spring
57	3193	3153	Drug design and discovery	1	1			Fifth year / 4	Spring
58	3494	3401	First aid	1	1			Fifth year / 4	Spring
59	3396	3385	Drug quality assurance	1	1			Fifth year / 4	Spring
60	3796	3765	Clinical trials	2	1	2		Fifth year / 4	Spring
61	3798	3774	Professional experience in hospitals	2		4		Fifth year / 4	Fall
62	3799	3789	Graduation project (part 2)	1		2		Fifth year / 4	Spring
B- Elective courses									
1	3573	3562	Ethics of biotechnology	3	2	2		Fourth year / 3	Spring
2	3776	3774	Pharmacotherapy 4	3	2	2		Fourth year / 3	Spring
3	3276	3221	Plant biotechnology	3	2	2		Fourth year / 3	Spring
4	3777	3720	Pharmaceutical Marketing	3	2	2		Fifth year / 4	Fall
5	3378	3332	Cosmetics 1	3	2	2		Fourth year / 3	Spring
6	3377	3332	Pharmaceutical Technology 1	3	2	2		Fifth year / 4	Fall
7	3583	3562	Biotechnological drug design	3	2	2		Fifth year / 4	Fall
8	3286	3221	Complementary and	3	2	2		Fifth year / 4	Fall

Serial	Course Code	Prerequisite	Course Title	Credit Hours	Weekly Hours			Year / Level*	Semester*
					Theoretical	Practical	Tutorial		
			alternative medicine						
9	3786	3774	Pharmacotherapy 5	3	2	2		Fifth year / 4	Fall
10	3787	3720	Sales and Budget Management	3	2	2		Fifth year / 4	Fall
11	3387	3332	Pharmaceutical Technology 2	3	2	2		Fifth year / 4	Fall
12	3388	3332	Cosmetics 2	3	2	2		Fifth year / 4	Fall
13	3593	3562	Biotechnological drug production	3	2	2		Fifth year / 4	Spring
14	3296	3221	Production of medicinal plants	3	2	2		Fifth year / 4	Spring
15	37960	3774	Pharmacy Skills	3	2	2		Fifth year / 4	Spring
16	3797	3720	Pharmaceutical Marketing Skills	3	2	2		Fifth year / 4	Spring
17	3397	3332	Pharmaceutical Technology 3	3	2	2		Fifth year / 4	Spring
18	3398	3132	Quality control for cosmetics	3	2	2		Fifth year / 4	Spring
C- University Requirements (Core program) Mandatory Courses									
1	0111		Academic English writing1	1			2		
2	0211		Perception actuality	1			2		
3	0122	0111	Academic English writing 2	1			2		
4	0233		Communication through art	1			2		
5	0411		Sustainable development	1	1				
6	0371		Philosophy	1	1				
7	0113		German language 1	1			2		
8	0266		Art creative processes	1			2		
9	0156		Creativity and entrepreneurs	1			2		
10	0382		Human rights and politics	1	1				
11	0269		Culture and history	1	1				
12	0157		Arabic Literature	1			2		
D- University Requirements (Core program) Elective courses**									
1	0222		Diversity interaction	1			2		
2	0244		Practicing individual Presence	1			2		

Serial	Course Code	Prerequisite	Course Title	Credit Hours	Weekly Hours			Year / Level*	Semester*
					Theoretical	Practical	Tutorial		
3	0255		Multi-focus to Art	1			2		
4	0124	0113	German language 2	1			2		
5	0155		Communication skills	1			2		
6	0383		Psychology	1	1				
7	0422	0111	Deep Ecology	1	1				
8	0260		Egyptology	1	1				
9	0363		Research Methodology	1			2		
10	0364		Sociology	1	1				
11	0277		Consciousness Development	1			2		
12	0381		Principles of law	2	2				
13	0484		Biology	1	1				
14	0485		Evolution	1	1				
15	0288		Art project	1			2		
16	0331		Nutrition[#]	1	1				

* According to study plan of regular students.

** According to students preferences considering prerequisite courses and university requirement department (core program) study plan.

[#] Added to university requirement courses starting from academic year 2017/2018 (University council number 25 (12/7/2018)

High-lighted fields represent the Field Training Courses

6- Courses Contents:

As mentioned in courses specifications and bylaw.

7- Program Requirements (according to Bylaws):

Heliopolis University fully complies with the admission regulations of the Private Universities Council of the Ministry of Higher Education (HUSD). HUSD receives students twice a year; in the fall and spring semesters. Students must apply for admission during the official application period, which is announced by the University's Admission Office. Students applying for admission at a University faculty must meet the following requirements:

1- Should be Egyptian. Non-Egyptian students can also be accepted according to the related rules.

2- Must be graduated from the general secondary school or equivalent. Students join faculties through a competitive process, based mainly on the results of the secondary school Final Exam. It is also possible for graduate students to apply for admission.

3- Should pass the Admission Exam.
4- Must enroll as full-time student; otherwise the student must have permanent permission from his/her workplace to accommodate university attendance Policy.
5- All kinds of required fees must be paid in full.
Students wishing to join the faculties based on results of exam certificates as IGCSE or American Diploma or other similar certificates should have studied the courses necessary to allow them be admitted to the respective faculty as well as to have got the minimum grades that are specified by the HUSD that make such certificates equivalent to the general secondary level certificate.

8- Graduation requirements (Completion of program):

- Graduation Minimum Credit Hours Required

The minimum number of credit hours required for graduation as specified in the bylaw is 180 credit hours.

- Academic Program Curriculum

The curriculum of all academic programs in the University includes the following group of courses:

(a) University requirements (Mandatory Core Program): Is a group of 12 credit hours courses to develop the personality of students. They must be completed by all students as part of the graduation requirements for the chosen field of specialization.

(b) University requirements (Elective Core Program): are 6 credit hours group of designated courses that students can select from in order to complete the university elective courses requirements in their program.

(c) Faculty Requirements: are offered by the faculty council and approved by the University Council. These requirements include a number of credit hours distributed over mandatory (153 credit hours) and elective (9 credit hours) courses as specified by the faculty bylaw.

- Evaluations and Grades

Course Grade Points are calculated by the number of credit hours required for the course multiplied by the points corresponding to the final mark of the relevant course.

The cumulative GPA is calculated by dividing the Grade Point total by the total number of credit hours earned for all courses of the academic program, excluding the failed courses. In calculating the cumulative GPA, decimals beyond 2 places are truncated, and afterwards rounded up to one decimal place. The GPA may range from 0.0 to a 4.0.

The following table indicates how to convert a percentage into a 4.0 Grade Point Average (GPA).

Grade	Percentage range	Points
A	From 93% to 100%	4
A-	From 90% to < 93%	3.7
B+	From 87% to <90%	3.3
B	From 83% to <87%	3.0
B-	From 80% to <83%	2.7
C+	From 77% to <80%	2.3
C	From 73% to <77%	2.0
C-	From 70% to <73%	1.7
D+	From 67% to <70%	1.3
D	From 63% to <67%	1.0
D-	From 60% to <63%	0.7
F	Less than 60%	0.0

-Academic Honor

Students with a cumulative GPA of 3.5 and above are included in the honor list, if the student has not failed in any course during his/her study in the university and finished not less than 70% of the program requirements in the University.

- Degree Requirements

Students awarded the Bachelor of pharmaceutical sciences and drug technology after completing the following requirements:

1. The fulfillment of the minimum 180 credit hour in the program study plan as specified in the curriculum.

2. Achieving a final GPA grade of at least 2.0 in order to be awarded the relevant degree.

9- Assessment methods of the program:

Assessment method	Learning Outcomes being assessed related to:
Written examination	Domain 1,3
Oral examination	Domain 1,3,4
Practical/Tutorial examinations	Domain 1,2,4
Periodical exams (quizzes, assignments, projects, presentations,…etc)	Domain 1,2,3,4
Online assessments (if necessary)	Domain 1,2,3,4

10- Program Evaluation Methods:

	Evaluator	Method	Sample
1	Senior Students	Questionnaire and brain storming	Not less than (40 %)
2	Alumni	Questionnaire	Representative sample
3	Stakeholders	Questionnaire, meetings and discussions	Representative sample
4	Internal and external evaluators for program	Provide reports after site visit and document examination	2
5	Internal and external evaluators for courses	Provide reports after document examination	14
6	External examiner	Provide reports after examination	Committee

Program Coordinator: **Faculty Dean**

Name: Ass. Prof. Dr. Ahmed Abulsoud **Prof. Dr. Gouda Helal**

Signature: 

Date: 5/9/2019

Prepared concerning NAQAAE form No. 13

Appendices:

1. Program outcomes vs. NARS key elements matrix. (Attached)

2. Program outcomes vs. Program courses. (Attached)