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# Program Report (2016)

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**2022/2023**



إعتماد مجلس وحدة: 2023/8/5  
إعتماد مجلس كلية: 2023/8/16

## Index

<b>Content</b>	<b>Page</b>
Basic Information	2
Specialized Information	3
Academic Standards	4
Graduate Attributes	5
Competencies of NARS 2017	6
Student Support System	9
Matching of Program Academic Structure with competencies	12
Student's Evaluation for Measuring the competencies	15
Learning Resources	16
Quality Management	20
Proposals for Program Development	21

- **University / Academy:** Pharos University in Alexandria
- **Faculty / Institute:** Faculty of Pharmacy

## A- Basic Information

1	Program Title	Bachelor's Degree in Pharmacy	
2	Program Type	Single	
3	No of Academic Years	10 semesters for 5 years	
4	No of Credit Hours/ No of Courses for Bylaw 2016	Compulsory (66 courses)	158 Cr
		Elective (4 elective courses)	8 Cr
		Summer training	18 Cr
		<b>University requirements</b>	14 Cr
		Total	198 Cr
5	Departments: 6 academic departments:	a) Department of Pharmaceutical Chemistry b) Department of Pharmacognosy & Natural Products c) Department of Pharmacology and Therapeutics. d) Department of Microbiology and Immunology. e) Department of Clinical Pharmacy & Pharmacy Practice. f) Department of Pharmaceutics & Pharmaceutical Technology	
6	Basics of External Examiner Committee Selection	<b>Examiner boards consist of:</b> <ul style="list-style-type: none"> <li>• Staff members sharing in teaching the course and external examiners who teach the course in other universities.</li> <li>• Any staff member that has a relative of the 4<sup>th</sup> degree in an academic year in the faculty is excluded from the examiner board of this year.</li> <li>• The construction of the examiner's boards should be approved by the departments' council.</li> <li>• A questionnaire was filled by external oral examiners for each course; their feedback is documented in each course report</li> </ul>	
7	System of External Examiner:	Available	

## B- Specialized Information

### 8. Statistical Information

Students' distribution among the five years/ academic year 2022/2023:

Student academic level	Students number
Freshmen	-
Sophomore	-
Junior	9
Mid-Senior	27
Senior	576
Total	612

Total number of students registered for the academic year **2022/2023** is 612

➤ **No. of student completing the program and as a percentage of those who started:**

Academic year	Total no of students	No of graduate students	% of graduate students
<b>2022/2023</b>	612	470	76.80%
<b>2021/2022</b>	437	417	95.42%
<b>2020/2021</b>	425	417	98.12 %
<b>2019/2020</b>	521	461	88.48 %
<b>2018/2019</b>	554	467	84.3 %

➤ **% of joining the faculty for the last three years: increasing**

Student academic level	Students number
<b>2022/2023</b>	365
<b>2021/2022</b>	99
<b>2020/2021</b>	289

➤ **Grading of the academic year 2022/2023:**

Academic level	85-100		75<85		65<75		60<65		50<60		<50	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Freshmen	%•	%•	%50	%55.56	%50	%11.11	%•	%•	%•	%33.33	%•	%•
Sophomore	%•	6.614%	%•	23.408%	%•	23.934%	%•	13.188%	%•	32.858%	%•	0%
Junior	%•	1.635%	%•	17.728%	%•	36.649%	%•	13.796%	%•	25.609%	%•	2.917%
Mid senior	25.03%	5.997%	20.644%	18.8%	28.30%	28.898%	15.295%	14.659%	5.3%	24.87%	4.081%	4.954%
senior	45.46%	58.59%	22.18%	18.63%	15.09%	11.94%	7.403%	3.48%	9.32%	3.34%	0.476%	0.091%

## 9. Academic Standards

➤ **Reference Academic Standards:**

- The Faculty adopts the Academic Standards of the National Authority for Quality Assurance and Accreditation of Education (NAQAAE) NARS 2009 in a faculty council on 12/3/2012.
- NARS 2009 was previously discussed and adopted in all departments' councils.
- Comparative study between graduate attributes and ILOs of pharmacy program (Bylaw 2006) versus NARS 2009 is available as attached extension.
- In April 2017, NAQAAE accredited a new version for Competency-Based NARS, so the faculty started to take an action towards NARS 2017.
- Competency-Based NARS 2017 was discussed and adopted in all departments' councils and finally adopted in a faculty council on 7/10/2019
- Gap Analysis between Pharmacy Program Bylaw 2006 & Competency-Based NARS 2017 was carried out by a committee in Quality Assurance Unit (QAU) composed of staff members from all departments.
- The outcome of this meeting was an action plan which was accredited in a faculty council on 10/2/2020
- The action plan included updating teaching and learning strategy and assessment methods, to be in line with Competency-Based NARS 2017.
- QAU started to organize workshops to train and increase the awareness of staff members about Competency-Based NARS 2017 and the updated teaching and learning strategy and assessment methods.

- As a major procedure done by the committee of programs development was establishing a new bylaw aligned with NARS 2017 and it was approved by the committee of the Pharmaceutical Sector in September 2019.
- All previous documents are available as external extensions.

## **Graduate Attributes**

**Faculty of Pharmacy and Drug Manufacturing, Pharos University in Alexandria strives to ensure that graduates of the program acquire and demonstrate the following attributes:**

1. Perform efficiently, professionally, legally and ethically in different areas of pharmacy practice.
2. Demonstrate prudence in handling chemicals and pharmaceutical, natural products as well as microbes by applying basic of aseptic techniques.
3. Deliver pharmaceutical care to patients in community pharmacies and in hospital settings.
4. Adhere to good laboratory practice in performing chemical, analytical, microbiological and biological procedures and techniques.
5. Adhere to good manufacturing practices in formulating, preparing and storing pharmaceutical and natural products.
6. Participate in delivering education services to the public with other health care professionals aiming to promote health, control infection and prevent disease.
7. Demonstrate good understanding of the etiology, pathophysiology and management of different diseases in accordance with evidence-based medicine.
8. Propose good judgment in resolving drug-related problems and promoting rational use of medicines, as well as Planning, designing, and conducting research using appropriate methodologies.
9. Develop competence in assuring quality of raw material and pharmaceutical as well as natural products including physical, chemical, microbiological and biological quality control.
10. Be committed to life-long learning, and strive continuously to update their knowledge in profession-related areas.
11. Demonstrate good communication and computation skills, time management, problem solving, critical thinking, decision-making proper documentation and drug filling system and team-working spirit.
12. Be committed to further develop presentation, documentation, promotion, marketing and business administration skills.

## **2. National Academic Reference Standards (NARS) 2017:**

By completion of the program, students should achieve the following 12 competencies that cover 4 competency domains. These domains cover all essentials for practicing pharmacy profession including both drug-oriented and patient-oriented disciplines. A number of Key Elements are included in each competency, with a total of 42 key elements for all competencies. These key elements will reflect each competency in practice.

### **The competency domains are the followings:**

- Domain 1: Fundamental Knowledge
- Domain 2: Professional and Ethical Practice
- Domain 3: Pharmaceutical Care
- Domain 4: Personal Practice

## **DOMAIN 1- FUNDAMENTAL KNOWLEDGE**

**1-1- COMPETENCY** Integrate knowledge from basic and applied pharmaceutical and clinical sciences to standardize materials, formulate and manufacture products, and deliver population and patient-centered care.

### **KEY ELEMENTS**

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

**KEY ELEMENTS:**

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

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

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

**2-2- COMPETENCY** Standardize pharmaceutical materials, formulate and manufacture pharmaceutical products, and participate in systems for dispensing, storage, and distribution of medicines.

**KEY ELEMENTS:**

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

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

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

**2-2-4.** Adopt the principles of pharmaceutical calculations, biostatistical analysis, bioinformatics, pharmacokinetics, and 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.

**KEY ELEMENTS:**

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

**KEY ELEMENTS:**

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

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

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

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



**2-5- COMPETENCY** Contribute in pharmaceutical research studies and clinical trials needed to authorize medicinal products.

**KEY ELEMENTS:**

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

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

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

**2-6- COMPETENCY** Perform pharmacoeconomic analysis and develop promotion, sales, marketing, and business administration skills.

**KEY ELEMENTS:**

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

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

**DOMAIN 3: PHARMACEUTICAL CARE**

**3-1- COMPETENCY** Apply the principles of body functions to participate in improving health care services using evidence-based data.

**KEY ELEMENTS:**

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

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

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

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

**3-2- COMPETENCY** Provide counseling and education services to patients and communities about safe and rational use of medicines and medical devices.

**KEY ELEMENTS:**

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

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

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

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

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

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

#### **DOMAIN 4: PERSONAL PRACTICE**

**4-1- COMPETENCY:** Express leadership, time management, critical thinking, problem solving, independent and team working, creativity and entrepreneurial skills.

**KEY ELEMENTS:**

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

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

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

**4-2- COMPETENCY** Effectively communicate verbally, non-verbally and in writing with individuals and communities.

**KEY ELEMENTS:**

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

**KEY ELEMENTS:**

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

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

#### **Student Support System:**

##### **Academic Support**

- There is the (academic supervision) scientific leadership system in which each staff member gives academic support to specified number of students as academic advisor. There is a general academic advisor for the faculty and 2 deputies for him.
- In the Fall and Spring 2022/2023, lists were done to know that exact the number of students who possessed academic problems (المتعثرين), and they were divided into categories according to the cumulative GPA. The grades and absences of students were also monitored, and the academic supervision urged the students to be regular and raise the grades to prevent failure. The students' midterm scores were also counted, and the academic supervision communicated with them to discuss the possibility of raising them. Students' results were also reviewed at the end of each semester to determine their progress.
- Declared office hour system (2 hours/week/course) for each staff member involved in teaching to answer students' scientific questions.
- Follow-up the work of the Committee of international students on a regular basis and stand to solve the problems facing them.
- Continuous follow-up of لجنة المقاصات to determine the extent of its work and raising the percentage score for each course as the calculation was on a low percentage.

- Comparison tables were also made between the four bylaws that operate within the faculty, in order to facilitate the work of لجنة المقاصات.
- Studying the petitions received by the college regarding the registration of courses at the beginning of each semester for approval and sending them to the Vice President of the University for admission and registration.
- The use of simulation programs has been activated, which is an educational method that simulate reality and give more chances for the students to practice and acquire skills, examples for the used programs (OBSIM, Cal pharmacology MS media, Rat CVS, Mendely, Drug eye, Molecular Operating Environment etc.).

### **Support for Students Who Are at Risk:**

- Students who miss **25%** or more of practical sessions, or tutorials are warned twice via official letters sent to their addresses, students should attend **75%**, otherwise will be prevented from applying to final examination.
- Students who manage to provide a legal document indicating an acceptable excuse for missing 25% or more of practical sessions, or tutorials are allowed to attend the final examinations.
- According to the faculty bylaws the academic year is divided into two semesters, the students are informed with their grades of the first term examination maximum one week after the end of exams so those who are at risk of failure can work harder during the second term.
- After being informed with their grades, students are offered a reasonable period of time (2 weeks) during which they are allowed to submit complain to the dean's office (if they are not satisfied with their grades), and their answer sheets are revised by control committee and course instructor, then they are informed of the results.
- The academic advisor can support students who are at risk in academic and social level.
- Students are asked to prepare presentations, posters, or other assignments throughout the semester, which help them to get better marks through continuous course work evaluation.
- Students are graded every practical session in some departments, where the students submit the results of the practical experiment they performed and these results together with their performance during the practical session are evaluated. These grades are included in their final grade.
- Model answers of some quizzes/exams are displayed in the departments to inform the students with appropriate answers so they can estimate their average grade and can understand the scientific material better
- Student feed-back system is applied in all subjects.
- A committee has been formed to look after the students who are at risk to improve their academic situation.
- Determining the defaulting students who are at risk and studying their case separately to determine the extent of the possibility of evaluating their academic level so that they can graduate.

### **Disabled Students:**

There are some specific facilities for them, due to their small number. However, the faculty takes this issue in consideration.

- Staff members and demonstrators give care and support to those students, in all aspects particularly in scientific issues. During the practical sessions and practical examinations, a demonstrator is appointed to help students with movement disability.
- The entrance of the building is designed to fit wheel chairs.

### **Support for Outstanding Students:**

- They officially receive financial awards. This celebration occurs during the graduation day which is organized by the faculty and students' union in the presence of large number of faculty top managements, staff members, and representation of syndicate, stakeholders and previous alumni, representatives of the non-academic staff and parents of the graduates.
- The first outstanding students are employed in the faculty as demonstrators according to a faculty annual plan.
- Rewards are given by professors in some departments to students who prepare the best presentation, poster or written report
- Excellent students are awarded prizes and certificate of appreciation on the pharmacy day which is held every year.
- The faculty follows up the field projects and divides them among the various departments of the faculty in fall and spring semesters, then nominates the best project to participate in the discussion of research projects at the university level and follow the rehearsals with the course instructor and students to reach the best competitive presentation.

### ➤ **Program Reference Standards:**

National academic reference standards for pharmaceutical studies, NARS 2017.

### ➤ **Availability and Adequacy of Program Handbook**

- There is a student handbook (guide) to show the regulations and instructions of the faculty. This handbook is received by all first year students.
- The information supplied by handbooks is available on the faculty website.

### ➤ **Continuous Program Revision System:**

Available through a special faculty committee, specially constructed for this purpose. [Curriculum and Program Development Committee]

The committee construction is renewed whenever needed by adding new members, and approved by the faculty council.

### Matching of the Program Academic Structure with competencies:

#### A- Matching with NARS

Sciences	NARS (%)	Faculty Curriculum (%)
Basic	10.0 - 15.0	13.4
Pharmaceutical	35.0 - 40.0	36.6
Medical	20.0 - 25.0	22.7
Pharmacy Practice	10.0 - 15.0	11.6
Health and Environmental	5.0 - 10.0	5.8
Behavioral and social	2.0 - 4.0	2.3
Pharmacy Management	2.0 - 4.0	2.9
Discretionary	Up to 8.0	4.7

#### B-Matching with Courses

Level	Semesters	course code	Course title	FUNDAMENTAL KNOWLEDGE	PROFESSIONAL AND ETHICAL PRACTICE	PHARMACEUTICAL CARE	PERSONAL PRACTICE
Third	Fall	PC 307	Instrumental Analysis	1.1.1- 1.1.2- 1.1.3- 1.1.7	2.2.1 - 2.2.3		4.1.2 - 4.2.1
		PG 304	Phytochemistry II	1.1.3- 1.1.4	2.2.3		4.1.1- 4.1.2- 4.3.2
		PL 308	Biochemistry II	1.1.1	2.3.1	3.1.1- 3.1.4	4.2.1- 4.2.2
		PL 309	Pharmacology I	1.1.4	2.2.4	3.2.1- 3.2.4	4.1.1- 4.1.2
		PM 305	Public Health	1.1.1	2.3.2	3.1.2	4.1.2
		PN 302	Pharmacy law and legislation		2.1.1- 2.1.2- 2.3.2		
		PP 305	Pharmaceutics II	1.1.3	2.1.3- 2.2.2- 2.2.4		4.3.2
	Spring	PC 308	Medicinal Chemistry I	1.1.1- 1.1.3	2.2.1		4.1.2
		PG 305	Phytotherapy	1.1.2- 1.1.4		3.2.3	4.2.1-4.2.2
		PL 310	Pharmacology II			3.2.1- 3.2.4	4.1.1- 4.3.2
		PL 311	Pathophysiology			3.1.1- 3.1.4	4.1.2- 4.3.2
		PL 312	Toxicology	1.1.2	2.4.4	3.2.1	4.1.1- 4.1.2
		PL 307	Biostatistics				4.1.2-4.3.2



Fourth		PN 303	Drug Information	1.1.5-1.1.6	2.4.3- 2.5.2		4.1.2
		PP 306	Biopharmaceutics	1.1.5- 1.1.6	2.2.4	3.2.5	
	Fall	PC 409	Medicinal Chemistry II	1.1.1 - 1.1.4	2.2.2		4.3.2
		PL 413	Pharmacology III			3.2.1 - 3.2.4	4.2.1 - 4.3.2
		PL 414	Pharmacotherapeutics I			3.1.4	4.1.2 - 4.3.2
		PM 406	Drug & Molecular Biotechnology		2.2.1 - 2.2.3 - 2.2.4 - 2.3.1		4.2.2 - 4.3.2
		PN 404	Pharmaceutical Care I		2.1.2 - 2.4.3	3.1.1 - 3.2.1	4.2.1
		PN 405	Hospital Pharmacy	1.1.1 - 1.1.3	2.2.2 - 2.2.3 - 2.3.2	3.2.2	4.1.2
		PN 406	First Aid	1.1.1	2.4.2		4.1.1 - 4.2.1
		PP 407	Drug Stability	1.1.3 - 1.1.6 - 1.1.7			
	Spring	PC 410	Drug Design	1.1.1 - 1.1.4	2.2.4		4.3.2
		PL 415	Pharmacotherapeutics II			3.1.4 - 3.2.1 - 3.2.2	4.1.2 - 4.3.2
		PL 416	Nutrition & Health	1.1.1 - 1.1.2		3.1.1 - 3.2.1	4.1.2
		PN 407	Pharmaceutical Care II	1.1.2- 1.1.4	2.1.2	3.2.2	4.2.1 - 4.2.2
		PN 408	Community Pharmacy	1.1.1 - 1.1.4	2.4.3	3.2.1 - 3.2.2 - 3.2.5	4.1.2
		PP 408	Pharmacokinetics		2.2.4 - 2.4.3		
		PP 409	Pharmaceutical Technology	1.1.1 - 1.1.7	2.2.2 - 2.2.3 - 2.5.1 - 2.5.3		4.1.2
Fifth	Fall	PL 517	Pharmacotherapeutics III			3.1.4 - 3.2.2	4.1.2 - 4.3.2
		PN 509	Clinical Pharmacy I	1.1.2 - 1.1.5	2.2.4	3.2.2	4.2.1
		PN 510	Pharmacy Practice Experience I	1.1.4		3.2.2 - 3.2.5	4.1.2
		PN 511	Pharmacy Management & Pharmacoeconomics		2.6.1 - 2.6.2		4.1.1 - 4.1.2
		PN 512	Sales, Marketing and Drug promotion	1.1.1	2.6.2		4.1.2 - 4.1.3 - 4.2.1 - 4.2.2
		PP 510	Pharmaceutics III	1.1.2 - 1.1.3			4.1.1
		PP 511	Unit Operation	1.1.2	2.2.3		4.1.1



	Spring	UCS 02	Communication Skills II	1.1.1 - 1.1.6			4.1.1 - 4.2.1 - 4.2.2
		PC 511	Analytical Quality Assurance & Control	1.1.3	2.2.1 - 2.2.2 - 2.2.3 - 2.2.4		4.2.1 - 4.2.2
		PL 518	Pharmacotherapeutics IV			3.1.4 - 3.2.2	4.1.2 - 4.3.2
		PN 513	Clinical Pharmacy II	1.1.4	2.2.4 - 2.5.2 - 2.5.3	3.2.1 - 3.2.2	4.2.1
		PN 514	Clinical Toxicology	1.1.1 - 1.1.2	2.4.3 - 2.4.4	3.2.4	4.1.2
		PN 515	Pharmacy Practice Experience II	1.1.4	2.4.3		4.1.2
		PP 512	Industrial Quality Assurance & GMP	1.1.3 - 1.1.7	2.2.2		4.1.1
Electives	Category 1	PC E12	Advanced Instrumental Analysis		2.2.1 - 2.2.3		4.1.2 - 4.2.2
		PC E13	Chemometrics in pharmaceutical Analysis	1.1.1 - 1.1.3			4.1.2 - 4.2.2
		PG E06	Forensic Pharmacognosy	1.1.3	2.2.3 - 2.4.4		4.2.1
		PG E07	Applied Pharmacognosy	1.1.3	2.2.2 - 2.2.3		4.1.2
		PL E20	Bioevaluation and Drug Screening		2.5.1 - 2.5.2	3.2.2	4.3.2
	Category 2	PL E19	Addiction & Drug Abuse	1.1.2		3.1.1 - 3.1.4 - 3.2.1	4.1.1 - 4.1.2
		PL E21	Clinical Biochemistry	1.1.1 - 1.1.2		3.1.4	4.1.2 - 4.3.2
		PL E22	Complementary & Alternative Medicine	1.1.1 - 1.1.2		3.2.3	4.1.1 - 4.3.2
		PL E23	Pharmacotherapeutics for special population			3.1.1 - 3.1.4	4.1.2 - 4.3.2
		PM E07	Advanced Microbiology	1.1.1		3.1.2 - 3.1.3	4.1.2
	Category 3	PN E16	Research Methods & applied data analysis	1.1.1 - 1.1.2	2.1.2 - 2.2.4 - 2.5.2 - 2.5.3		4.1.2
		PN E17	Critical care therapeutics	1.1.1 - 1.1.5 - 1.1.6	2.2.4 - 2.4.3		4.1.2 - 4.2.1 - 4.2.2
		PN E18	Dispensing medications	1.1.4	2.2.4	3.2.1 - 3.2.5	4.1.2 - 4.2.1 - 4.2.2
		PN E19	home health care	1.1.4		3.1.4 - 3.2.1 - 3.2.5	4.2.1 - 4.2.2
Category 4		PC E14	Project in Pharmaceutical Chemistry	1.1.6	2.5.3		4.1.1 - 4.1.2 - 4.2.1 - 4.2.2 - 4.3.2



		PG E08	Project in Pharmacognosy and nature products		2.5.2 - 2.5.3		4.1.2 - 4.2.1 - 4.3.2
		PL E24	Project in Pharmacology & therapeutics	1.1.6		3.1.4 - 3.2.1	4.1.1 - 4.1.2 - 4.1.3 - 4.3.2
		PM E08	Project in Microbiology & Immunology	1.1.6		3.1.4	4.1.1 - 4.1.2 - 4.1.3 - 4.3.2
		PN E20	Project in clinical Pharmacy & pharmacy Practice	1.1.6 - 1.1.7	2.5.2 - 2.5.3		4.1.2 - 4.2.1 - 4.2.2 - 4.3.2
		PP E13	Projects in Pharmaceutics & pharmaceutical Technology	1.1.6 - 1.1.7	2.5.2 - 2.5.3		4.1.2 - 4.2.1 - 4.2.2 - 4.3.2

➤ **Administrative Constrains:**

The administrative structure is central, which may help achieving the faculty requirements.

**10- Students Evaluation for measuring the competencies:**

➤ **Assessment methods**

- Teaching, learning and assessment strategy matches competency-based blended learning. It contains various new assessment methods including.

<b>Methods of evaluation are updated and tailored to be able to measure competencies that should be achieved and to meet the requirements of the new teaching and learning strategy of blended learning</b>
Written exams
Oral exams
Laboratory exams
E-Quizzes
Assignments
Discussion forum
Online Practical Exams
Online Final Exams
Field Project
Graduation Project
Objective Structured Clinical Examination (OSCE)
Objective Structured Practical Examination (OSPE)
Self-assessment
Peer-assessment
E- Portfolio for each student

- Marks allocated 50% for final written exam and 10% for oral exam and 20% for the mid-semester evaluation if there is no oral exam. 10% for the mid-semester evaluation if there is an oral exam. 20% for mid-term exam if there is no oral exam and 30% for course work



including practical exams, assignments, quizzes, field projects, etc. Assessment methods in the faculty are mostly compatible with those criteria needed for evaluation of LO's for each course.

- Oral exams were held as graded written sheet distributed with the final written exam (For Senior students) and held normally on campus (For Freshmen, Sophomore, Junior and midsenior students)
- Examiner boards consist of staff members sharing in teaching the course and any staff member that has a relative of the 4th degree in an academic year in the faculty is excluded from the examiner board of this year.
- Clear rubrics for evaluation of any exam are clearly announced to the students.

### ➤ **Schedule for students' evaluation:**

According to the university calendar:

#### **Fall 2022/2023:**

- **Interactive learning activities/practical or tutorial activities:** Throughout the semester.
- **The mid-term exam:** 8<sup>th</sup> week.
- **The practical exam:** 15<sup>th</sup> week.
- **Final exams:** 16/17<sup>th</sup> week
- **4 Quizzes** are held on week 5 and 11 (according to the academic calendar) and other 2 weeks decided by the staff members.

#### **Spring 2022/2023:**

- **Interactive learning activities/practical or tutorial activities:** Throughout the semester.
  - **The mid-term exam:** 8<sup>th</sup> week.
  - **The practical exam:** 17<sup>th</sup> week.
  - **Final exams:** 18/19<sup>th</sup> week
  - **4 Quizzes** are held on week 5 and 12 (according to the academic calendar) and other 2 weeks decided by the staff members.
  - **Research project:** 20<sup>th</sup> week.
- Final grades are announced shortly after the end of exams and uploaded on the faculty web site, any student has the right to review his grades after filling complain application form, this process is monitored, the responsibility of this process is taken by the Vice-Dean of education and students affairs.

## **11- Learning resources**

### ➤ **Staff members to students' ratio: or Adequacy of academic staff members:**

The actual ratio of staff members to students is **1:21** which indicated that there is an extra number of staff members who can teach post graduate courses or courses in other faculties in the same specialization in the university.

➤ **Matching of Faculty Members' Specialization to Program Needs:**

- All faculty members are specialized at the field they teach and are at least Ph.D. holders. Faculty assistants are either Master holders or preparing for the Master. All faculty members are research active, in addition to an agreement by university with FLDC department in Alexandria university to offer promotion and training accredited courses to staff members

➤ **Adequacy of Library Facilities:**

**For students:**

- The central library is now at the new building supplied with high level facilities.
- The library contains many scientific books as well as some scientific references and 9 computers with an access to the internet in addition to a free wireless internet to allow all students to use their own laptops.
- Announcement about registration to the Egyptian Knowledge Bank (EKB) is available in the library. And access is guaranteed through the computers

**For staff members and their assistants:**

- It contains scientific books of interest to the members of the teaching staff, but no periodicals are available for researchers and postgraduate students, Periodicals are now available via EKB
- Two librarians are devoted to library and supplying information.
- There is one library computer operated by the library specialists, where books and references information are available.
- Lighting and ventilation of the Library are good.
- The area in the library is adequate to the number of students at the mean time.

➤ **Adequacy of Laboratories**

- Specialized labs are available according to the various departments of the faculty for the students and the researchers.
- The staff members of the faculty and their assistants exert a lot of effort to organize the work inside the labs to suit the needs of the students.
- The process of education and training within the labs is characterized by accuracy and efficiency.
- The technical staff of all labs is highly qualified and they attend special training workshops for maintenance and optimum safety of the labs.

➤ **Adequacy of Computer Laboratories (Dry Labs):**

- Specialized two dry labs are available each of area 136 and 87 m<sup>2</sup> respectively.
- Each lab is equipped with 86 computers, connected to the internet in addition, they are supplied with data show, Audio-visual devices, LCDs as well as the suitable software
- Two computer labs were established in the ground floor of Faculty of Pharmacy, the area is as follows 70, and 105 m<sup>2</sup>. They possess 64 computers connected to the Internet, through which it is possible to access global databases so that the student

can use them for scientific research, carrying out study tasks and training on the use of technology in serving patients and applying Fundamentals of clinical pharmacy.

➤ **Adequacy of Animal House:**

- Air-conditioned building consists of four rooms equipped with shelves to accommodate the animal cages.
- Male & female “Sprague Dawely” rats of different weights are available
- The technical staff of the animal house is highly qualified to ensure optimum care, life support, nutrition, reproduction and hygiene of the animals.

➤ **Adequacy of Research laboratories:**

- Central Lab for the scientific instruments. Separated six research labs are available each of area 31 m<sup>2</sup>. Two preparation rooms each of area 14 m<sup>2</sup> each, respectively.
- The faculty is interested in strengthening the infrastructure of scientific research and therefore has been keen to establish and equip the “Pharmaceutical Nanotechnology Research Lab” (PNRL), (110 m<sup>2</sup>) which was opened in February 2019, it is now highly equipped

➤ **Adequacy of Computer Facilities:**

- All study rooms are supplied with computer and data show.
- There are 9 computers available to students in the library, connected to the internet.
- All heads of the departments have computers equipped with printers.
- Staff members and their assistants can get access to the internet, either by DSL or wireless connections available in the university.
- Computer courses are university requirement courses for all students.

➤ **Adequacy of Field / Practical Training Resources**

- Summer training is obligatory for both junior and mid-senior students: in house summer training inside the educational pharmacy specially constructed in the faculty. Training also extends to hospitals and community pharmacies. The training program is held under the supervision of faculty staff members and their assistants and evaluated according to the approved summer training LOs.

In addition, obligatory courses are taught to students before starting the training including:

- Ethics and history of pharmacy (compulsory)
- Communication Skills (university requirement)

➤ **Summer training for academic year 2022/2023**

➤ **Community pharmacy training:**

- 278 Junior PharmD and PharmD-clinical students are currently trained in community pharmacy for 100 hours according to the by-law.
- 25 Regular pharmacy students are currently trained in community pharmacy for 120 hours as substitute training.

- There are 34 pharmacy training supervisors are responsible for receiving students' training schedule, making random 2 video-call evaluation for each student using Blackboard recording, oral evaluation of booklet, and computer post-test on the final evaluation day on week zero of the Fall semester 2023-2024.

➤ **Hospital training:**

- 14 Regular pharmacy students are currently trained in the hospital for 60 hours as substitute training on July 16 – August 10, 2023.
- **Participating hospital:** Armed Force Hospital in Mostafa Kamel
- During Fall 2022/2023, Five field projects were carried out in the following courses: Pharmacy Practice Experience I, Biochemistry II, Pharmaceutical Analytical Chemistry I, Pharmaceutics III and Medicinal Plants.
- Many field visits were done to link the theoretical and practical side such as (Amiri University Hospital, Children's Cancer Hospital 57357, Arab Company for Medicines and Medicinal Plants (MEPACO), The European Egyptian Company for Pharmaceutical Industries).

➤ **Adequacy of Any Other Program Needs:**

- A well-established bylaw program for master degree in pharmaceutical sciences, for Department of Pharmacology and Therapeutics, Department of Pharmaceutical chemistry, Department of Pharmaceutics and Pharmaceutical technology as well as program for diploma of higher studies in hospital pharmacy. Such bylaws are accredited.
- Establishment of the "International Publication and Nanotechnology Consultation Center" (INCC) for pharmaceutical and non-pharmaceutical specialties, the first academic service center at Alexandria Universities that provides free consultation and follow-up for international publication at all stages of different specialties and consultations related to all kinds of pharmaceutical nanotechnology researches.
- In addition, international publications and patents were achieved as a result of INCC research agreements.
- The INCC was given an approval of the Postgraduate Studies university Council to construct Nanotechnology research team that is composed of head of INCC together with researchers from Pharos university in Alexandria and from other universities. They work all together to establish research cooperations as well as research projects.

## **12- Quality Management:**

### **➤ Availability of Regular Evaluation and Revision System for the Program:**

- An internal auditing committee headed by program coordinator has been established to evaluate and revise the educational program and the newly launched programs.
- Questionnaires are distributed to a sample of students from different levels to evaluate the courses, questionnaires to evaluate the program is distributed for graduates and Stakeholders. The QAU informs the course coordinator and head of departments about the statistical analysis of the results of students' questionnaires (student opinion in the course and the assistant staff members teaching the course) and students' remarks in order to make the appropriate action plan. Moreover, the quality assurance center informs the course instructors with the statistical analysis of the results of students' questionnaires (student opinion in the course and staff members teaching the course) and students' remarks in order to make the appropriate action plan.
- The faculty adopted the National Academic Reference Standards 2017 (Competency-Based NARS 2017) and took all actions to shift from content to competency-based curricula. So, Gap Analysis was carried out, by the Quality Assurance Unit, between Program ILOs & Competency-Based NARS 2017. Some courses in both bylaws 2006 & 2016 were updated to fill the gap and enable students to have all competencies they should have as stated in NARS 2017.
- Follow-up spreading awareness about the National Academic Reference Standards 2017 (NARS-2017).
- Program and Course specifications and matrices of all departments for both bylaws 2006 & 2016 were updated and reviewed by the Quality Assurance Unit and approved in the department councils in order to be in line with the new teaching, learning & assessment strategy in addition to competency-based learning.
- The faculty adopted and applied programs "Bachelor's Degree in Pharmacy (Pharm-D)/ (Pharm D Clinical), through which they adopt the National Academic Reference Standards 2017 (Competency-Based NARS 2017). they consist of new courses and practical training hours in all pharmaceutical fields either private or governmental. This program will allow the student to acquire all the skills and competencies needed in the future work place.
- The Quality Assurance Unit reviewed the course specifications of fall and spring semesters courses.
- The Quality Assurance Center's Performance Follow-up Committee examined the course files for the academic year 2022-2023 semester. Technical support committee was established to follow up the course files with low grades for justice confirmation.
- As part of the follow-up of the Quality Assurance Unit for the exam and control work, the Control Review Committee was assigned to evaluate the control files of the different levels. The Committee also carried out a technical and formal examination of the exam paper for the academic year 202٢-٢٠٢٣ and prepared a report regarding this examination which was approved in the faculty council.



➤ **Effectiveness of Faculty and University Laws and Regulations for Progression and Completion**

- The laws and regulations for progression and completion are clear and stated in the bylaws for the undergraduate students, faculty of Pharmacy, Pharos University in Alexandria. It is announced in the student handbook and on the web site of the faculty.
- Forming control committees for each academic semester so that the formation does not conflict with the relatives of the teaching staff members of the faculty, as well as emphasizing the lack of supervision or participation of the faculty member in preparing the examination paper or following up the grades of the course work in case that a relative is present in the academic year, and that to ensure that there are no conflicts of interest.

➤ **Effectiveness of Program External Evaluation System:**

- A review and an evaluation report of the program, by the external evaluator, have been conducted for 2013/2014. The report suggestions were taken into consideration in the final form of the program specification.
- External reviewer (Professor Dr. Salwa Elmeligy) evaluated and revised the educational programs as well as course specifications and matrices of these programs and the reports were approved by different departments and faculty councils (academic year 2019/2020).

➤ **Faculty Response to Student and External Evaluation:**

- The faculty responded positively, revision of some courses according to the opinion of students, stakeholders, and according to the points mentioned in the program coordinator report will be considered in the action plan.
- All course specifications were modified according to all revision processes done.

### **13- Proposals for Program Development**

➤ **New Courses:**

The faculty adopted and applied the ٢ programs “Bachelor’s Degree in Pharmacy (Pharm-D) and (Pharm-D Clinical Pharmacy), through which it adopts the National Academic Reference Standards 2017 (Competency-Based NARS 2017). It consists of new courses and practical training hours in all pharmaceutical fields either private or governmental. This program will allow the student to acquire all the skills and competencies needed in the future work place. So, New courses of these bylaws were opened and applied for Mid-senior students in the fall and spring of the academic year 202٢/202٣

➤ **Electronic Learning:**

- Blackboard collaborate plate form is used through which each faculty member can store and save lectures in archive, students can communicate with faculty and staff through chatting. Online assignments also allow students to write their opinions and ideas to faculty members through feedback and many other features.

- The Committee carried out a weekly follow-up of teaching on the Blackboard platform and submitted the weekly report to the Dean of the College. The Committee is coordinating with the University Follow-up Committee to amend any observations

➤ **Blended Learning:**

- In both Fall and Spring semesters 2022/2023, all lectures and practical/tutorial sessions were given on campus according to the prepared timetables but with aid of using blackboard collaborate plate form to upload lectures/practical/tutorial notes, also to discuss questions with students and upload extra learning sources.
- Blended learning was applied for both semesters 2022/23 through using non-traditional method of teaching; flipped classroom, brain storming, peer learning, videos, gaming and self learning.

➤ **The role of the Curriculum and Program Development Committee:**

- Part of sales and marketing course was given in the Professional Development and Entrepreneurship Center.
- The Kamen team (Faculty of Pharmacy Students) were qualified for the finals of the Abu Hashima competition to support emerging projects for young people, after strong competitions with more than 6,000 teams at the level of the Arab Republic of Egypt, and qualifiers that lasted for 6 months. They also won a financial award of sixty thousand Egyptian pounds as financial support for his project.
- Also, Faculty of Pharmacy Students participated in the HULT Prize 2023 which is a Student Competition (March – September 2023)
- Faculty of Pharmacy Students participated in the second edition of the IntraAfrica 2063 International Competition, which is supported by the Egyptian Academy of Scientific Research and Technology and in cooperation with the Association of African Universities (March 6-9, 2023).
- Encouraging the graduation projects students for doing Social awareness about the safe use and misuse of herbal drugs through applying questionnaire to measure people awareness about this topic and through brochure. This project was done under supervision of Dr/Dalia El-Sheikh. Etc.
- Encouraging the students to participate in the 10<sup>th</sup> Medical Conference for Research and Innovations, Faculty of Science, Alexandria University that was held on 13-14/5/2023. Our students participated with poster titled ' The Medical Nutrition Therapy and its Role in Management of Several Diseases" This poster was done under supervision of Prof.Dr/ Hend Hussien.
- Encouraging the students to do practical work as a part of the graduation project that will be a part of an internationally published research papers for example graduation project of pharmacology and therapeutics department under the title of (neuroprotective effect of rasagiline and coffee in experimental induced encephalomyelitis in rats) under supervision of Dr/Sherihan salah eldin abdelhamid.
- The Quality Assurance Unit, in cooperation with the Alumni Committee, and under the supervision of Prof. Dr. Majid Al-Ghazouli, Dean of Faculty of Pharmacy, created

google forms to collect graduate information and their suggestions for improving programs to cope with the requirements of the labor market and we aimed to know what are the workshops do they need so we can plan for establishing them.

### ➤ **Training and Skills:**

- Improving the tutorials and practical sessions of many courses by increasing computer based training sessions and ensuring the availability of different resources needed for such improvement.

### ➤ **Summer training for academic year 2022/2023**

#### ➤ **Community pharmacy training:**

- 278 Junior PharmD and PharmD-clinical students are currently trained in community pharmacy for 100 hours according to the by-law.
- 25 Regular pharmacy students are currently trained in community pharmacy for 120 hours as substitute training.
- There are 34 pharmacy training supervisors are responsible for receiving students' training schedule, making random 2 video-call evaluation for each student using Blackboard recording, oral evaluation of booklet, and computer post-test on the final evaluation day on week zero of the Fall semester 2023-2024.

#### ➤ **Hospital training:**

- 14 Regular pharmacy students are currently trained in the hospital for 60 hours as substitute training on July 16 – August 10, 2023.
- **Participating hospital:** Armed Force Hospital in Mostafa Kamel
- Diversity of the faculty from its educational, research and service activities directed to the development of the environment and community service and priorities such as the completion of agreements and partnerships with industry and the surrounding community, capacity-building, continuous professional development of specialization, applied scientific research, consultations and training programs, therapeutic and educational convoys and solving community problems, etc.
- Workshops were also held for both faculty members and the assisting staff to improve their skills needed in the teaching and learning process. Workshops were through the Education and Development Center (EDC) such as (Rationale of Scientific Novelties, Crisis Management, Flipped Learning, Interactive Non-traditional Teaching/Learning Tools, etc...) or the Quality Assurance Center at the university such as (Competency based education, data base, ملف المقرر المبني على الجدارات, مهام إدارى وحدات ضمان الجودة, etc...)
- During Fall 2022/2023, Five field projects were carried out in the following courses: Pharmacy Practice Experience I, Biochemistry II, Pharmaceutical Analytical Chemistry I, Pharmaceutics III and Medicinal Plants.
- Many field visits were done to link the theoretical and practical side such as (Amiri University Hospital, Children's Cancer Hospital 57357, Arab Company for Medicines and Medicinal Plants (MEPACO), The European Egyptian Company for Pharmaceutical Industries).



- Encouraging students to join many workshops at the Entrepreneurship Center such as

التاريخ	اسم ورشة العمل	م
22-31/8/2022	Entrepreneurship (CISCO)	١
14/8/2022	Fetch your Career	٢
28/8/2022	Principles of Marketing	٣
11-13/9/2022	Entrepreneurship (CISCO)	٤
4-6/9/2022	How to Finance your Project	٥
12/9/2022	Marketing tools	٦
25/10/2022	ESB	٧
28/2/2023	اعرف قدراتك	٨

### **Examination System:**

- Oral exams were cancelled according to the decision of the University and Faculty Councils and grades for the oral exam were replaced by graded written sheet distributed with the final written exam, this was done in courses where number of students is large but oral exams were held on campus for courses with around 100 number of students.
- Reviewing exams by the Curriculum Development Committee represented by each department head to ensure the diversity of questions and their coverage of all parts of the curriculum with their suitability for the time specified for each exam, and supervising the conduct of substitute examinations
- Establishing an integrated electronic control to ensure the accuracy of the results and proper monitoring, then handing it over to the faculty's control to work within the framework of the university's requirements
- Discussing the results of the audit work done by the result revision committee to approve it.

### **➤ Others:**

- The success rates in the spring semester were studied and the numbers of those who failed in each course were counted, which helped to develop a study plan for the summer semester to open many courses to allow students to complete the courses they failed.

### **Suggestions for Improving the Program**

This bylaw is finished this year and won't be available anymore. Other bylaws are now implemented (Pharm D, Pharm D Clinical Pharmacy).

### **Program coordinator**

**Dr. Rasha ElBayaa**

**Faculty Dean**  
**Prof. Dr. Maged Elghazoly**

**Head of Quality Assurance Unit**  
**Dr. Sherihan SalahEldin**