# Program Report

## 2019/2020

**اعتماد مجلس وحدة بتاريخ: 2020/10/4**

**اعتماد مجلس وحدة بتاريخ: 2020/11/23**

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- **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 2006** | Compulsory(64 courses) | 163 Cr |
| | | Elective(10 elective courses) | 20 Cr |
| | | Field training | 12 Cr |
| | | **University requirements** | 8Cr |
| | | Total | 203 |
| **5** | **Departments: 6 academic departments:** | a) Department of Drug Industries<br>b) Department of Pharmaceutics<br>c) Department of Analytical and Pharmaceutical Chemistry<br>d) Department of Pharmacognosy and Medicinal Plants<br>e) Department of Microbiology and Immunology<br>f) Department of Pharmacology and Toxicology | |
| **6** | **Basics of External Examiner Committee Selection** | Examiner boards consist of:<br>• Staff members sharing in teaching the course and external examiners who teach the course in other universities.<br>• 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.<br>• The construction of the examiners boards should be approved by the departments' council.<br>• A questionnaire was filled by external oral examiners for each course; their feedback is documented in each course report | |
| **7** | **System of External Examiner:** | Available | |

## B- Specialized Information

### 8. Statistical Information

Students' distribution among the five years/ academic year 2019/2020:

| Student academic level | Students number |
|---|---|
| Freshmen | 300 |
| Sophomore | 517 |
| Junior | 455 |
| Mid-Senior | 449 |
| Senior | 521 |
| Total | **2242** |

Total number of students registered for the academic year 2019/2020 is **2242**

- **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 |
|---|---|---|---|
| **2019/2020** | **521** | **461** | **88.48%** |
| **2018/2019** | 554 | 467 | 84.3% |
| **2017/2018** | 382 | 379 | 99.21% |
| **2016/2017** | 424 | 398 | 93.87% |
| **2015/2016** | 409 | 362 | 88.51% |

- **% of joining the faculty for the last three years: Decreasing**

| Student academic level | Students number |
|---|---|
| **2019/2020** | 300 |
| **2018/2019** | 523 |
| **2017/2018** | 450 |

- **Grading of the academic year 2019/2020:**

| 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** | 5.6 | | 17.8 | | 30 | | 14.4 | | 5.6 | | 26.7 | |
| **Sophomore** | 2.5 | | 6.9 | | 27.09 | | 20.9 | | 36.5 | | 6 | |
| **Junior** | 12.4 | | 7 | | 34.3 | | 13.7 | | 21.7 | | 10.7 | |
| **Mid-Senior** | 35.4 | | 27.4 | | 18.1 | | 6.4 | | 9.5 | | 3.2 | |
| **Senior** | 33.9 | 44.7 | 33.1 | 29.7 | 13.3 | 13.7 | 13.9 | 9.6 | 5.3 | 1.2 | 0.4 | 1.1 |

## During Covid-19 Pandemic:

Grades were cancelled for students that took online final exam according to the implementation of ministry of higher education.

| Academic level | NP% | NF% |
|---|---|---|
| **Freshmen** | 100 | —— |
| **Sophomore** | 87.5 | 12.5 |
| **Junior** | 98.8 | 1.2 |
| **Mid-Senior** | 99.6 | 0.4 |

## 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 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. Intended Learning Outcomes (ILOs):

### 2.1. Knowledge and Understanding:

**By completion of the program, students should be able to:**

A1: Explain fundamentals of basic physicochemical behavior of compounds and drugs, pharmacy practice, pharmaceutical management as well as pharmaceutical, medical, social, behavioral, health and environmental sciences.

A2: Identify qualitative and quantitative principles of different chemical compounds and various analytical techniques applying GLP guidelines including aseptic technique and different validation procedures.
A3: Recognize techniques used for isolation, identification, purification, synthesis and standardization of active substances derived from different origins.
A4: Outline characteristics of different drug dosage forms, cosmetic preparations and biotechnology derived pharmaceuticals, their troubleshooting (delivery systems) causes and remedies.
A5: Recall quality assurance of pharmaceutical processes and products including physical, chemical, microbiological and biological quality control as well as quality control of herbal products.
A6: Explain factors affecting drug pharmacokinetics, bioavailability and bioequivalence aspects.
A7: Identify the principles of pharmaceutical technology such as pre-formulation and powder characterization.
A8: Describe basics of appropriate documentation, methodology and approval process of newly introduced pharmaceutical products.
A9: Define legal background for national drug policy and regulations of pharmacy practice based on national code of ethics.
A10: Recognize the basic idea behind GMP and its requirements for both quality management and personnel, including principles of various instruments and techniques including all processes in pharmaceutical industry.
A11: Identify the principles of engineering and pharmaceutical science in drug innovation, design, development, construction and operation of plans based on physicochemical characteristics of drug entity and drug receptor interactions.
A12: Describe administrative and technical services at the hospital setting; IV admixtures, parenteral nutrition, drug dispensing, distribution, preparation and administration.
A13: Identify causes and control of microbial contamination as well as sanitation, disinfection, sterilization processes and microbiological quality control of pharmaceutical products for maintaining public health.
A14: Describe fundamentals of anatomy, physiology of human body, pathophysiology and manifestations of diseases in addition to general principles of nutrition and its relation to health and disease.
A15: Explain the basis of pharmacogenetics and genetic predisposition to disease, the fundamentals of immunology, biotechnology and biochemical pathways of molecular biology and radio labeled pharmaceutical products regarding their correlation with different diseases.
A16: Discuss etiology, epidemiology and laboratory diagnosis for different disease states, in addition to the host microbe relationship and basis of inflammation and infectious disease.

A17: Describe mechanisms of action, therapeutic uses, dosage regimes, adverse drug reactions, drug interactions and contraindication of pharmacologically active drugs of natural or synthetic origins as well as antimicrobial agents.
A18: Review the general principles of clinical pharmacology, features of therapeutic drug monitoring and rational use of drugs.
A19: Explain rational for the use of complementary and alternative medicine.
A20: Describe toxicological features of drugs and xenobiotics and their management as well as major therapeutic guidelines.
A21: Explain basics of mathematics and principles of biostatistical analysis and their applications in different pharmaceutical fields.
A22: Summarize fundamentals of pharmaceutical management, including financial and human resources
A23: Describe primary, secondary and tertiary drug information resources.
A24: Recognize principles of sales and marketing as well as drug promotion

## 2.2. Intellectual Skills:

**By completion of the program, students should be able to:**

B1: Illustrate the acquired knowledge and terminology in calculation, preparing, analyzing and formulating compounds, medicines and cosmetic preparations effectively.
B2: Predict the properties of biomolecules and medicinal agents as well as their structure-activity relationship and potency by application of various studies including bioinformatics and other computer-aided tools in drug design.
B3: Make use of medical and pharmaceutical calculation as well as statistics for estimation and data interpretation of experimental results and published literature.
B4: Apply GLP, GMP, GSP and GCP guidelines in the different areas of pharmacy practices, as well as measures of infection control.
B5: Discover the appropriate design and strategies of targeting drug delivery systems and technologies of biologically active molecules.
B6: Select the proper radionuclide and type of imaging device required for detecting various diseases.
B7: Identify pharmacological actions, adverse drug reactions, drug interactions, contraindications as well as drug incompatibilities and drug instability intervene to manage and resolve different diseases and problems.
B8: Predict the changes in the pharmacokinetic processes on the concentration of the drug in the body.
B9: Assess evidence-based information, ethical and legislation frameworks needed in pharmacy practice decisions to prevent medication errors in addition to adjust dosage and dose regimen.
B10: Discover different problems of manufacturing and dispensing of the different dosage forms and their solutions
B11: Select the optimum and validated method of manufacturing of the dosage form.
B12: Select appropriate tools or analytical method for the assay and quality control of raw materials and pharmaceutical products.
B13: Differentiate processes in which materials undergo physical changes (unit operations) or certain chemical changes (unit processes).
B14: Employ physical, analytical and microscopic methods for qualitative and quantitative analysis for medicines in different forms.

B15: Choose appropriate methods of synthesis, extraction, identification, isolation, purification and standardization of natural products, as well as biologically active pharmaceutical and toxic substances.
B16: Compare between different disease states with respect to their etiology, epidemiology, laboratory diagnosis, clinical features and pharmacotherapeutics aspects of the disease.
B17: Apply pharmacological, pharmacogenomics, pharmacoimmunology pharmacotherapeutics and clinical pharmacy principles for the proper selection of drugs to include in formulary and for management of individual patients.
B18: Develop cost-effective pharmacotherapy management for application of principles of pharmaceutical management, sales and marketing, and taxes in different pharmaceutical fields.
B19: Calculate different indices important for manufacturing of solid dosage form.
B20: Relate social and behavioral activities, nutritional status as well as environmental problems on human health.
B21: Choose measures of infection control to prevent infections

## 2.3. Professional and Practical Skills:

**By completion of the program, students should be able to:**

C1: Apply pharmaceutical and medical knowledge, terms & abbreviations correctly in different professional settings.
C2: Develop good laboratory practice in handling and disposing chemicals, natural products and microbial specimen in a manner ensuring safety of individuals and environment.
C3: Adapt good pharmacy practice in compounding, selecting, dispensing, storing, analyzing and distributing medicines, including medicinal plant products, in a manner sustaining their quality.
C4: Apply good manufacturing practices in synthesis, extraction, isolation, purification, quantitative analysis and standardization of active substances from different origins.
C5: Judge ethically selecting and dispensing appropriate medicines, cosmetics preparations including herbal products, according to good clinical practice guidelines.
C6: Analyze results of various lab tests for selecting the proper strategies for treatment of different diseases and controlling microbial contamination in different settings.
C7: Determine the type of poison according to the symptoms.
C8: Assemble professional skills for operating instruments & equipment and handling experimental animals & biological specimen.
C9: Explain different drug–related problems including health hazards
C10: Practice patient counseling during dispensing OTC & prescription products to ensure safe and proper use of medicines and cosmetic preparations.
C11: Demonstrate competence in generating, presenting, analyzing and interpreting experimental and mathematical data.
C12: Solve problems encountered in pharmaceutical fields in addition to the employment of suitable quality control tests for manufactured products.

C13: Analyze management issues and economic principles involved in industrial operations, in addition to the determination of costs, approximate profit second to investment in a given process and a unified tax return.
C14: Apply proper pharmaceutical registration rules, documentation and drug filing system.
C15: Design systematic search strategy for retrieving, analyzing and evaluating relevant information.

## 2.4. General Skills:

**By completion of the program, students should be able to:**

D1: Demonstrate capability of communication by verbal and written means.
D2: Utilize literature for the evaluation of the information from different sources including the library, internet...etc.
D3: Demonstrate effective participation in group-based learning
D4: Use numeracy, calculation, and statistical methods, as well as information technology tools.
D5: Develop self-learning skills needed for continuous professional development
D6: Employ different skills required for sales, marketing and pharmacy administration
D7: Use ethical, legal and safety guidelines in evaluating & dealing with different problems and in decision making
D8: Show creativity and time management abilities
D9: Demonstrate the ability of critical thinking and problem solving
D10: Show different writing and presentation skills

- **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.
- 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 in terms of studying the courses in Arabic, so the Dean of Admission and Registration, was contacted and he approved to replace the Arabic language course (university requirement) by a general elective course and the decision of legislation and health policies course (necessary to practice the profession in Egypt) by a specialized elective course.
- 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 three bylaws that operate within the faculty, in order to facilitate the work of لجنة المقاصات.
- Discussing the problems that students face, whether group or individual problems, and trying to solve them so that their academic level is not affected by them, for example:
  1. Communicating with the President of the University to transfer the result of the PHR 600 "graduation project" from a (Fail) or (Pass) result to a course with grades, in order to raise the GPA for students registered for this course, which enables students to graduate.
  2. Opening new courses taught for the first time from the 2016 bylaw for the fourth level so that they can register other courses in the next academic year as compensation for the delay in the study plan due to their inability to register English language courses.
  3. Permission to study Biochemistry I course in another faculty within the university enable some students to graduate.
  4. Follow-up of the observations of the university's complaints committee, and resolving them immediately according to the directions of the Vice President for Education and Student Affairs, including the opening of 3 elective courses in the summer semester to compensate for the inadequate performance of the academic advisors who did not guide their students to the necessity of completing the elective courses on time.

**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 com 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. Some students were able to finish the courses, raise the GPA and graduate after more than 10 years in the faculty.

**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, but this year it was cancelled because of covid-19 pandemic.
- The faculty follow up the research projects and divide them among the various departments of the faculty in fall and spring semesters, then nominate 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.
  The faculty presented a project on bronchial asthma and how to treat and prevent asthma crises for competition at the university level in the fall of 2019-2020, and it was under the supervision of the Microbiology Department
  Projects have been canceled in the second semester due to the Corona pandemic

## ➢ Program Reference Standards:

National academic reference standards for pharmaceutical studies, NARS 2009

### ➢ 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 ILO's:**

**A- Matching with NARS**

| Sciences | NARS Hours | Faculty Curriculum Hours |
|---|---|---|
| **Basic** | **10-15 %** | **14.78 %** |
| **Pharmaceutical** | **35-40 %** | **38.92 %** |
| **Medical** | **20-25 %** | **19.21 %** |
| **Pharmacy Practice** | **10-15 %** | **9.85%** |
| **Health and Environmental** | **5-10 %** | **5.42 %** |
| **Behavioral and social** | **2-4 %** | **2.96 %** |
| **Pharmacy Management** | **2-4 %** | **2.96 %** |
| **Discretionary** | **Up to 8 %** | **5.91 %** |

**B-Matching with Courses**

| Year | Level | Course code | Course title | Knowledge & Understanding | Intellectual Skills | Professional and Practical Skills | General Skills |
|---|---|---|---|---|---|---|---|
| I | 1 | ENG 101 | English Language (I) | A1 | B18 | C1 | D1, D3, D5 |
| | | PHR 177 | Biophysics | A1 | B6,B13 | C1, C11 | D1 - D4 |
| | | PHR 121 | Physical Chemistry | A1 | B3, B13 | C1, C11 | D1 - D3, D9 |
| | | PHR 122 | General Chemistry | A1, A2 | B3, B13, B14 | C1, C2 | D1 - D5 |
| | | PHR 171 | Cell and Mol. Biology | A15 | B17 | C1, C2, C8 | D1, D2, D5 |
| | | MAT 105 | Mathematics | A21 | B3 | C11 | D4 |
| | | PHR 101 | Orientation to Pharmacy | A1, A4, A23 | B1 | C1 | D1, D3, D5 |
| | | PHR 102 | Pharm. Terminology | A1 | B18 | C1 | D1, D3 |
| | 2 | PHR 125 | Basic Inorganic Chem. | A1, A2 | B3,B14 | C1, C2 | D1 - D3, D5 |
| | | PHR 131 | Basic Organic Chem. | A1, A3 | B1 | C1, C2, C4 | D1, D3, D5 |
| | | PHR 141 | Botany and Med. Plants | A1, A3, A17 | B7, B14, B15 | C2, C8 | D2, D3, D5 & D9 |

| Year | Level | Course code | Course title | Knowledge & Understanding | Intellectual Skills | Professional and Practical Skills | General Skills |
|---|---|---|---|---|---|---|---|
| | | PHR 178 | Anatomy and Histology | A14 | B3 | C1, C8 | D1 - D5 |
| | | COM 101 | Computer Fundamentals | A1, A21 | B3 | C1, C11 | D2, D4 |
| | | ENG 102 | English Language II | A1 | B18 | C1 | D1, D3, D5 |
| | | PHR 110 | Ethics and History of Pharmacy Practice | A1, A9 | B9 | C1, C5 | D1 - D3, D5 |
| II | 3 | PHR 242 | Pharmacognosy I | A1, A3, A17 | B1, B7, B14 | C1, C3, C8 | D1-D3 |
| | | PHR 211 | Physical Pharmacy | A1, A4 | B1 | C1 - C3 | D1, D4, D5, D8 |
| | | PHR 272 | Physiology I | A14 | B16 | C1 | D1, D2, D5 |
| | | PHR 223 | Analytical Chemistry I | A1, A3 | B1, B14, B15 | C1, C4, C8, C11 | D1, D3 - D5 |
| | | PHR 232 | Organic Chemistry I | A1, A3 | B1 | C1, C2, C4 | D1, D3, D5 |
| | | PHR 251 | Microbiology I | A1, A16 | B16 | C1, C2, C6 | D1 - D3 |
| | 4 | MAT 208 | Basic Statistics | A21 | B3 | C11 | D3 - D5 |
| | | PHR 212 | Drug Dosage Forms I | A1, A4 | B1 | C3, C12 | D3, D5, D8 |
| | | PHR 273 | Physiology II | A14 | B16 | C1 | D1 - D3 |
| | | PHR 224 | Analytical Chem. II | A1 - A3 | B1, B3,B14 | C1, C2, C11 | D1 -D3, D5 |
| | | PHR 233 | Organic Chem. II | A1, A3 | B1, B15 | C1, C2, C4 | D1, D3, D5 |
| | | PHR 243 | Pharmacognosy II | A3, A17 | B7, B14 | C2, C3, C8 | D1 - D3, D5 |
| | | PHR 252 | Microbiology II | A2, A13, A17 | B16 | C2, C6 | D2, D3, D9 |
| III | 5 | PHR 374 | Biochemistry I | A14, A15 | B14, B16 | C1, C11 | D1, D3, D8 |
| | | PHR 312 | Drug Dosage Forms II | A1, A4 | B1, B10 | C1 - C3 | D1 - D3, D8 |

| Year | Level | Course code | Course title | Knowledge & Understanding | Intellectual Skills | Professional and Practical Skills | General Skills |
|---|---|---|---|---|---|---|---|
| | | PHR 326 | Pharm. Analysis | A2, A3, A21 | B1, B3, B14 | C1, C2, C4, C8, C11 | D1, D3, D4 |
| | | GEN 103 | Pharm Management | A1, A22 | B18 | C13 | D1, D3, D5 |
| | | PHR 343 | Phytochemistry | A2, A3, A17 | B2, B7, B14, B15 | C4 | D3, D5, D9 |
| | 6 | PHR 375 | Biochemistry II | A15 | B16 | C1, C8 | D2, D3, D9 |
| | | PHR 344 | Evaluation of Crude drugs | A1, A3, A17 | B1, B2, B15 | C4 | D3, D5, D9 |
| | | PHR 314 | Biopharmaceutics | A4 | B1, B3 | C1 | D2, D3, D8 |
| | | PHR 380 | Pharmacology I | A6, A15, A17 | B7, B8 | C1, C8, C15 | D1, D3, D5 |
| | | PHR 327 | Medicinal Chemistry I | A1, A3, A17 | B1, B2, B7, B15 | C1, C2, C4 | D1, D2, D5 |
| IV | 7 | PHR 428 | Medicinal Chemistry II | A1, A3, A17 | B1, B2, B7, B15 | C1, C2, C4 | D1, D2, D5 |
| | | PHR 461 | Pharmacogenetic and Pharmacoimmunology | A1, A15, A16 | B17 | C1 | D1 - D3 |
| | | PHR 403 | Library and Drug Information | A1, A23 | B7, B9 | C15 | D1 - D3, D9 |
| | | PHR 481 | Pharmacology II | A17 | B7, B16 | C1, C8, C11, C15 | D1, D3, D5, D9 |
| | | PHR 415 | Hospital Pharmacy | A1, A9, A12 | B7, B9, B17 | C1, C2, C5 | D1, D2, D4 |
| | | PHR 416 | Principles and Kinetics of Drug Stability | A1, A4 | B1, B3 | C1, C3 | D2, D3, D5 |
| | | PHR 413 | Sterile pharmaceutical Preparations | A2 - A4 | B1 - B3 | C1 - C3 | D1, D2, D9 |
| | 8 | PHR 404 | Pharm. Technology | A1, A4, A7 | B5, B10, B14, B19 | C12 | D1 - D5, D8 |
| | | PHR 446 | Forensic Pharmacognosy | A2, A3, A17, A20 | B14, B15 | C7 - C9 | D2, D3, D5 |
| | | PHR 417 | Pharmacokinetics | A6, A17 | B1, B8, B9 | C1, C12 | D1, D3, D4, D9 |

| Year | Level | Course code | Course title | Knowledge & Understanding | Intellectual Skills | Professional and Practical Skills | General Skills |
|---|---|---|---|---|---|---|---|
| | | PHR 418 | Community Pharmacy | A1, A16 | B7, B9 | C3, C5, C10 | D1, D3, D9 |
| | | PHR 476 | Forensic Chemistry | A20 | B16 | C1, C2, C7, C9 | D1, D5, D8 |
| | | PHR 453 | Pathogenesis and Etiology of Infectious Diseases | A17 | B16 | C1, C6 | D2, D3, D9 |
| V | 9 | PHR 525 | Analytical Quality Control | A2, A5, A10 | B3, B4, B11 - B13 | C2, C4, C8, C11, C12, C15 | D1 - D3, D5, D8, D10 |
| | | PHR 505 | Industrial Quality Control and GMP | A5, A8, A10 | B4, B12 | C1, C3, C4 | D1 - D3, D8 |
| | | PHR 582 | Bioevaluation and Drug Screening | A1, A17 | B1, B3, B14 | C1, C5, C8, C11 | D2, D3, D5, D9 |
| | | PHR 511 | Clinical Pharmacy | A1, A6, A17, A18 | B7 - B9, B17 | C1, C10, C14 | D1 - D3, D5 |
| | | PHR 513 | Cosmetics | A1, A4 | B1 | C5, C10 | D3, D5, D8 |
| | | PHR 570 | First Aid | A14 | B16, B17 | C1 | D1 - D3, D5 |
| | 10 | PHR 554 | Drug Biotechnology | A3, A4, A15 | B5, B15 | C1, C15 | D1, D2, D4 |
| | | PHR 555 | Applied Industrial Hygiene | A1, A5, A9, A20 | B4, B10 | C2, C5, C12 | D1 - D3, D9 |
| | | PHR 506 | Pharm. Manufacturing Processes | A1, A4, A10 | B4, B10, B11 | C12 | D1 - D3, D5, D8 |
| | | PHR 508 | Unit Operation | A10 | B11, B13 | C1, C12 | D1, D3, D8 |
| | | PHR 583 | Pharmacotherapeutics | A14, A17 | B7, B17 | C1, C5 | D1, D3, D5, D9 |
| | | PHR 556 | Pharmacoepidemiology | A1, A8, A21 | B3, B9, B16 | C10, D11 | D2, D3, D9 |
| | | PHR 600 | Seminar or Project | A17 - A19 | B7, B16, B17 | C1, C5, C9, C15 | D1, D2, D4 - D6 |
| | | | Summer Training | A10, A12, A16, A18 - A20, A23 | B4, B7, B9, B10, B16 | C1, C3, C6, C7, C10, C12 | D1 - D3, D5, D6 |

## ➢ Elective Courses

| Year | Course code | Course title | Knowledge & Understanding | Intellectual Skills | Professional and Practical Skills | General Skills |
|---|---|---|---|---|---|---|
| 2 | GEN 108 | Environment & Society | A1, A23 | B20 | C1, C2 | D1 - D3 |
| | PHR 564 | Parasitology | A1, A13, A16 | B16 | C1, C6 | D2, D3, D10 |
| | PHR 572 | Radiation Pharmacy | A15 | B6 | C1 | D1, D2, D8 |
| 3 | GEN 104 | Legislation &Health Policies | A8, A9 | B9 | C5 | D1, D5, D9 |
| | GEN 105 | Professional Communication | A1 | B17, B18 | C1 | D1, D3, D7, D10 |
| | GEN 110 | Principles of sales &Marketing | A22, A24 | B18 | C13 | D1 - D3, D6, D7 |
| | PHR 520 | Advanced Instrumental Analysis | A2, A3, A21 | B3, B14 | C8, C11 | D1, D3 - D5 |
| | PHR 546 | Applied Pharmacognosy | A2, A3 | B4, B14, B15 | C2 - C4 | D1, D3, D5 |
| | PHR 558 | Advanced Microbiology | A1, A5, A13, A15 | B4, B5, B16, B21 | C6, C12 | D2, D3, D9 |
| | PHR 562 | Mycology | A1, A16 | B16 | C1, C6 | D2, D9, D10 |
| | PHR 563 | Virology | A16, A17 | B16 | C1, C6 | D2, D3, D9 |
| | PHR 573 | Fundamental of clinical chemistry | A16 | B16 | C1, C6 | D1 - D4, D8 |
| 4 | GEN 106 | Taxes | A22 | B18 | C13 | D4, D7 |
| | MAT 505 | Applied Statistics | A21 | B3 | C11 | D1, D4, D5, D8 |
| | PHR 512 | Advanced Pharmaceutics | A4, A6 | B5, B6 | C1, C5 | D3, D5, D8 |
| | PHR 571 | Hematology | A1, A2, A14 | B16 | C1 | D1 - D3 |
| 5 | PHR 507 | Design & Formulation of d.f. | A4, A6 | B1 | C1, C5 | D3, D5, D8 |
| | PHR 514 | Advanced Drug Delivery system | A4, A6 | B1 | C5 | D1 - D3, D8 |
| | PHR 515 | Home Health Care | A1, A12, A17, A18 | B7, B16, B17 | C5, C10 | D1 - D3 |
| | PHR 565 | Immuno-Pharmaceutics | A1, A15 | B16, B17 | C1 | D2, D3, D9 |
| | PHR 574 | Nutrition | A14 | B20 | C1 | D2, D3, D5, D8 |
| | PHR 585 | Molecular Therapeutics | A1, A15 | B17 | C1 | D1, D3, D9 |
| | PHR 586 | Geriatric Pharmacy | A14, A17 | B16, B17 | C5, C10 | D1 - D4 |
| | PHR 587 | Pediatric Drug Therapy | A17, A18 | B17 | C1, C4, C10 | D2, D3, D7, D10 |
| | PHR 589 | Alternative Therapy | A19 | B15, B20 | C1 | D1, D3, D5, D8 |
| | PHR 529 | Advanced Pharm. Chemistry | A1, A11, A17 | B1, B2, B15, | C1, C2, C15 | D3, D5, D10 |

- **Administrative Constrains:**

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

## 10- Students Evaluation for Measuring the ILO's

- **Assessment methods**
  - Different types of assessment are applied including written, oral and practical examinations to evaluate the students' performance in respect of the achievement of program ILOs.
  - Teaching, learning and assessment strategy was updated to match competency-based, electronic, distance and blended learning. It contains various new assessment methods including.
  - New assessment methods such as online quizzes, assignments and final exams were applied due to Covid-19 pandemic.

**Methods and Rules of Student's Evaluation According to Bylaw 2006:**

| Methods | Program Intended Learning Outcomes |
|---|---|
| Written / Online Exams | Knowledge & Understanding and Intellectual Skills (+ Professional skills if course contains case studies) |
| Written / Online Quizzes | Knowledge & Understanding and Intellectual Skills (+ Professional skills if course contains case studies) |
| Oral Exams | Knowledge & Understanding, Intellectual Skills, Professional Skills and General Skills |
| Practical / Online Practical exams | Intellectual Skills and Professional & Practical Skills (+General Skills in Some Courses) |
| Assignments/ Practical & Tutorial Activities/ Field Projects | Knowledge & Understanding, Intellectual Skills, Professional Skills and General Skills |
| Graduation Project | Competencies |

- Marks allocated 40% for final written exam and 10% for oral exam and 50% for final written exam if an oral exam is not required. 20% for mid-term 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 ILO's for each course.
- During spring semester midterm exams were cancelled and marks were added to online final exams according to the decisions of Ministry of Higher Education and Pharos University Administration.
- Grades were cancelled for students that took online final exam according to the implementation of ministry of higher education in the face of COVID-19 pandemic.
- The examination grading system is clearly defined in student's handbook.
- Examiner boards consist of staff members sharing in teaching the course and external examiners who teach the course in other universities, 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. The construction of the examiners boards should be approved by the department and the faculty council.

- A questionnaire was filled by external oral examiners for each course; their feedback is documented in each course report.

➢ **Schedule for students' evaluation:**

According to the university calendar:

- Research reports and quizzes: Throughout the semester.
- The mid-term exam: 8th week.
- Research project: 10th week.
- The practical exam: 12-14th week.
- Final exams: 15th week

➢ **External reviewer comments: NA**

- 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 **1:27** which is not adequate. The faculty announced for job vacancies in departments that have shortage. In addition, the number of master holders that will complete their Ph.D. will increase significantly next year.

➢ **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 library contains 1584 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 $m^2$ respectively.
- Each lab is equipped with 45 computers, connected to the internet in addition, they are supplied with data show, Audio-visual devices, LCDs as well as the suitable software

➢ **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 32 $m^2$. Two preparation rooms each of area 15 and14 $m^2$ 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), 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 eight 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.
- Two computer labs are available as mentioned above

- **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 pharmacovigilance, pharmaceutical factories, 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 ILOs.
  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 this year was only for hospital pharmacies and was online virtual training because of Covid-19 pandemic.

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

- A well-established bylaw program for master degree in pharmaceutical sciences, for Departments of Pharmacology and Toxicology and Pharmaceutical Analytical and Medicinal chemistry, as well as program for hospital pharmacy diploma. Such bylaw is 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.

## 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 and students' remarks in order to take in their consideration and revise the courses.
- External reviewer is invited to evaluate and revise the educational program.
- 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), the faculty held an awareness lecture on 22/10/2019 delivered by the

Director of Quality Assurance Unit, on Academic Standards and to clarify how to prepare course specification and matrix, in addition to a second lecture on 15/7/2020 on zoom application by the Director of Quality Assurance Unit about competency-based curriculum.

- 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, leaning & assessment strategy in addition to competency-based learning.
- The faculty adopted and applied the new program “Bachelor’s Degree in Pharmacy (Pharm-D), 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.
- The Quality Assurance Unit prepared, updated and reviewed the program specification and matrix for the new program “Bachelor’s Degree in Pharmacy (Pharm-D)”, in addition to the preparation of course specifications of fall and spring semesters courses for the first and second level.
- A new program; Bachelor’s Degree in Pharmacy (Pharm-D Clinical Pharmacy) was approved to be applied in the next academic year 2020/2021.
- The Quality Assurance Center's Performance Follow-up Committee examined the course files for the academic year 2019-2020 semester.
- 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 2019 2020 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 and Drug Manufacturing, 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.
- As part of the interest in the external audit, the various scientific departments have sent nominations for the external reviewers to conduct the external review on specifications and matrices of the bachelor's degree courses. The Quality Assurance Unit at the faculty sent these nominations to the Dean of the faculty, who addressed the Vice President for Education and Student Affairs and supervisor of the Quality Assurance Center at the University and as a result a new evaluation of the program is in progress by different reviewers assigned by the higher administration

➢ **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 the external reviewing comments.

## 13- Proposals for Program Development

➢ **IDS:**

- Information and Decision Support Unit (IDSU) facilitates completion of various tasks accurately and quickly (e.g., timetables, academic advising, students' follow-up, exam timetables, invigilation, summer training … etc.)

➢ **New Courses:**

- The faculty adopted and applied the new program "Bachelor's Degree in Pharmacy (Pharm-D), 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.
- A new program; Bachelor's Degree in Pharmacy (Pharm-D Clinical Pharmacy) was approved to be applied in the next academic year 2020/2021.
- New courses of the third level of bylaw 2016 were all opened applied for junior students in the fall and spring of the academic year 2019/2020.

➢ **Electronic Learning:**

- Intending to change some elective courses to electronic courses, this will offer large-scale interactive participation. Students will be able to learn in ways that traditional classrooms would not be able to provide. It is able to promote good learning experiences and therefore, allow students to obtain higher satisfaction with their online learning.
- Studying courses that can apply e-learning and proposing "Mycology" as a complete electronic course to be opened in the fall, spring and summer semester of 2019-2020 and the number of students that could register for this course was limited to 50 students

only. This course was chosen specifically because it is an elective course with no practical sessions.

- E-courses were opened in the fall semester 2019/2020, which helped in the complete transformation in the spring semester to distance learning under the circumstances of the Corona pandemic, and this was done according to the directions of the university under its supervision, as all courses were converted into electronic courses (audio-video lectures and all assignments were made Online, final exams and alternative examinations, the practical part that took place inside the faculty after resuming the study was supervised) and the Google Classroom platform was used in this.
- An internal follow-up team was formed under the supervision of the Curriculum Development Committee to follow up on raising the lecture and distributing it, presenting this report to the Dean of the Faculty on a weekly basis, and supervising the amendment of the notes that come from the follow-up committee at the university.
- A new and advanced e-learning website (Blackboard) has been created for the university, 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.

➢ **Blended Learning:**

- Conducting a complete study as a proposal to combine traditional classroom learning with distance online learning (Blended Learning) and submit it to the Dean of the Faculty for presentation to the President of the University.
- Conducting a study to achieve faculty attendance (60-70%) according to the recommendations of the Supreme Council of Universities.
- Preparing the timetable for fall semester 2020/2021 to allow the application of blended learning. Moreover, students were divided into smaller groups to decrease students' number in each practical or tutorial session to enhance learning process.

➢ **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.
- In 2019 2020, an innovative Virtual Hospital Experiential Summer Training by NAPHS was offered. NAPHS Virtual Hospital Experiential Summer Training was an interactive online program; Designed for the hospital placement. Each student chose the program module of his preference from 3 different specialties (Cardiology, Oncology, Critical Care). Modules were designed to simulate the training experience in hospitals by clinical pharmacists' practitioners with previous preceptor experience.

  The enrolled students (428 students) began the training by an orientation session followed by 8 therapeutic sessions tackling specialty common encountered diseases through different discussion forum and interactive learning techniques during the zoom webinars. The training ended with the conference day during which each group

presented a case. Two weeks after the conference day, a virtual OSCE is held to evaluate the students' skills and knowledge.

- 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 held to increase students' skills such as workshops on Smart Presentation, Communication Skills, Learning Music, CV Writing, How to Choose a Smart Topic for a presentation, Presentation Skills and Hand.

  Seminars were also held such as Simplify Science, OTC from A to Z, Ethics of Scientific Research, Healthy Nutrition, Secrets for your scientific research path, cultural exchange for students, in addition to the Courses of Professional Development and Entrepreneurship Center to develop students' skills as well as EDC courses.

  Events such as the Orientation day for new students in the Fall semester of the academic year 2019/2020 was held. The Cultural Day: Extend the World and Sport Day were also held. Campaigns such as Heart health awareness and Viamin-D health awareness Campaigns were also carried out. Students' competitions were also held such as Painter Pharmacist and Star Pharmacist speaker competitions. Some scientific visits such as scientific visit to Mepaco pharmaceutical and medicinal plants factory in Anshas and The Amiri University Hospital were carried out.

  Four field projects during Fall 2019/2020 were carried out in the following courses: Pharmaceutical Analytical Chemistry I, Pharmacognosy, Biochemistry II and Pharmaceutical Sterile Preparations.

  Students also participated in the organization and scientific sessions of the Second International Conference of the Faculty of Pharmacy - Pharos University in Alexandria "Multidisciplinary Approaches in Pharmaceutical Sciences".
- 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 or the Quality Assurance Center at the university. E.g.: Blue Print & Academic standards and educational programs workshops.

  Due to the Corona pandemic, the university converted the workshops into electronic ones through Zoom, which witnessed turnout and interaction from all faculty members.

- **Examination System in Light of Covid-19 Pandemic:**

  - Supervising the preparation of examination schedules (basic and substitute) for mid-term and final exams, whether for online or written exams.
  - Establishing an accurate system for the second semester exams. 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 to avoid internet and other problems.
  - Establishing an integrated electronic control with the help of the IDS unit 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:**

  - Mention the new bylaws in the faculty councils for spreading awareness among faculty staff members.
  - Proposal for the new bylaw, "Pharm D Clinical Pharmacy", was carried out and sent to the sector committee and approved.
  - Proposal for the sixth final year of the 2 new bylaws Pharm-D & Pharm-D Clinical Pharmacy was prepared, which will include a comprehensive training program in various fields, and send it to the sector committee.
  - Developing the scientific content of all courses suggested by the Sector Committee for the new bylaw "Pharm D Clinical Pharmacy".
  - 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 containing more than 35 courses until these students completed the courses they failed.
  - Study and determine the needs of the new building (simulation programs for courses and determine the requirements to purchase computers and anything else).
  - Supervising the organization of the Second International Conference of the Faculty of Pharmacy - Pharos University in Alexandria "Multidisciplinary Approaches in Pharmaceutical Sciences" in coordination with the General Secretary General of the Conference - starting with inviting specialists, advertising and publicity, receiving and reviewing research, making a booklet, obtaining official sponsors, and coordinating with the speakers and others.
  - Supervising the organization of the first forum for community parties and beneficiaries in coordination with the Quality Assurance Center at the University and inviting specialists. Reports were written about the forum and the most important recommendations reached by the attendees were taken into consideration to be applied and get benefits.

## Suggestions for Improving the Program

| | Suggestions for improving the program | Responsibility | Timing |
|---|---|---|---|
| 1 | • Dividing the already existing student groups into smaller groups<br>• Office hours can be done through online meeting<br>• Training sessions using the new platform (Blackboard) | The dean, vice dean of students affaires and Administration | During 2020/2021 |
| 2 | • Availability of all courses for students all over the academic year<br>• Expand the varieties of medicine available on the pharmacy shelves for students to practice prescriptions reading and dispensing skills | The dean & Head of departments | During 2020/2021 |
| 3 | **Course modifications:**<br>• Continuous update for the course content<br>• Content: adding new topics, reorganization and modifications of some parts of the course<br>• Apply new teaching and assessment methods mentioned in the updated teaching and learning strategy of the faculty to cope with competency based-NARS 2017 and blended learning<br>• Implement & adopt different modalities in interactive learning<br>• Increasing field and hospital visits<br>• Increasing computer lab application<br>• Reducing the content of some courses e.g: Virology and Parasitology<br>• Making more frequent quizzes | Course instructors | During 2020/2021 |
| 4 | **اجهزة و مستلزمات تعليمية:**<br>• Buying the recommended updated references<br>• Buying new microscopes and projecting microscopes for demonstration<br>• HPTLC for further training of students | ادارة المشتريات | During 2020/2021 |

| | | | |
|---|---|---|---|
| | on advanced chromatographic techniques<br>• Buying necessary computer programs and online database | | |
| **5** | **<u>Improving the environment of labs, offices and lecture's halls by:</u>**<br>• Using computer labs with internet access in tutorial sessions, online exams and online quizzes<br>• Supplying air conditioners<br>• Provide each lab with data show<br>• Provide each office with computer<br>• Provide each lecture hall with speakers and wireless audio system<br>• Upgrading and renovating laboratory tools | Administration | During 2020/2021 |

**Program coordinator**

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**Faculty Dean**

**Prof. Dr. Maged Elghazoly**

**Head of Quality Assurance Unit**

**Dr. Shaimaa Khamis**