

Faculty of Pharmacy

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DEPARTMENTS

1. Analytical Chemistry and Drug Quality Control
2. Pharmaceutical Chemistry
3. Pharmacognosy and Medicinal Plants
4. Pharmaceutics and Pharmaceutical Technology
5. Pharmacology
6. Pharmaceutical Microbiology
7. Clinical Pharmacy

HISTORY

The Faculty of Pharmacy at Beirut Arab University was established in 1986, in Beirut, the capital of Lebanon. The undergraduate program at the Faculty of Pharmacy started and progressed to include seven academic departments.

The faculty has observed considerable growth in number of its students that increased from a total number of 115 in 1986 to a total of 444 in 2008.

In 2002, the faculty expanded its curriculum to incorporate postgraduate programs including: Master and PhD Degrees, in addition to a Diploma in Clinical Pharmacy and Doctorate in Clinical Pharmacy (Pharm.D.). Since its establishment, the faculty has adopted the extended academic year system, then it moved to the two academic terms scheme, in 1999. More recently, in 2002, the faculty updated its programs and adopted the "Credit Hour System". The curriculum of this new system prepares the students for careers in Clinical Pharmacy and promotes interaction between pharmacists and other health professionals. Now, a thorough inspection of the current curriculum is undertaken for improvement to meet the national and international needs.

Moreover, the faculty established a "Pharmaceutical Continuing Education Program" including short courses, seminars and presentations in the various Pharmaceutical fields that offer graduates and the community a venue for maintaining up-to-date knowledge.

MISSION

Faculty of Pharmacy at Beirut Arab University, is an educational and scientific Lebanese institution committed, since its foundation in 1986, to provide advanced services in pharmaceutical education, research, and training, to prepare competent pharmacists capable of effective participation in different pharmacy domains locally, regionally, and internationally, life-long self learning, and the establishment of a strong relationship with the surrounding society in frame of professional code of ethics. To achieve its mission, Faculty of Pharmacy depends on highly qualified staff members, distinguishable laboratory facilities and modern educational tools.

VISION

To be recognized as a premier academic institution in pharmacy education, academic research and community involvement.

UNDERGRADUATE PROGRAM

OFFERED DEGREES

The Faculty offers a Bachelor Degree (BSc.) in "Pharmaceutical Sciences" where the standard duration of study is ten semesters.

PROGRAM DESCRIPTION

The degree requirements consist of a total 178 Credit Hours taken as follows:

- Mandatory Courses: 149 Cr. divided into:
 - 19 Cr. of Basic Sciences related courses in: Biology, Mathematics, Anatomy and Histology, Physiology, Pharmaceutical Physical Chemistry, Pharmaceutical General Chemistry and Botany and Medicinal Plants;
 - 131 Cr. of professional courses in: Pharmaceutics, Pharmacognosy, Pharmaceutical Analytical Chemistry, Pharmaceutical Organic Chemistry, Pharmaceutical Microbiology, Biochemistry, Medicinal Chemistry, Phytochemistry, Community

Pharmacy, Pharmacology, Toxicology, Industrial Pharmacy, Medical Microbiology, Biopharmaceutics and Public Health, Pharmacokinetics, Bioassay ,Clinical Pharmacy, Hospital Pharmacy and Pharmacy Laws.

- Faculty Elective Courses: 12 Cr. of courses that maintains up-to-date techniques and information and includes: Biotechnology and Genetic Engineering, and Pharmacogenomics in Disease Management.
- General University Requirements: 16 Cr. divided into:
 - University Mandatory Courses: 7 Cr.
 - University Elective Courses: 9 Cr.

Furthermore and as a graduation requirement, all students must successfully complete a 12 months training program under the supervision of the academic staff members nominated by the faculty board in accordance to a “professional training program” offered by the faculty. This training is divided over 4 summer semesters and starts at the end of the first year of study.

BACHELOR OF PHARMACY

Curriculum (178 Credits Hours)

First Semester			Credit
PHAR	101	Botany & Medicinal Plants	3
PHAR	103	Pharmaceutical General Chemistry	3
PHAR	105	Pharmaceutical Physical Chemistry	2
PHAR	107	Pharmaceutical Organic Chemistry I	3
BIOL	107	Biology	2
		Elective (General) ¹	4

			17
Second Semester			
PHAR	102	Pharmacognosy I	3
PHAR	104	Pharmaceutical Analytical Chemistry I	3
PHAR	108	Pharmaceutical Organic Chemistry II	3
MEDC	116	Anatomy & Histology	3
MATH	106	Mathematics	2
		Elective (General) ¹	4

			18
Third Semester			
PHAR	201	Introduction to Pharmaceutics	3
PHAR	203	Pharmaceutical Analytical Chemistry II	3
PHAR	205	Pharmaceutical Organic Chemistry III	3
PHAR	207	Pharmacognosy II	3
PHAR	209	Physiology I	2
		Elective (General) ¹	4

			18
Fourth Semester			
PHAR	202	Physical Pharmacy	3
PHAR	204	Pharmaceutical Analytical Chemistry III	3
PHAR	206	Pharmaceutical Organic Chemistry IV	3
PHAR	208	Pharmacognosy III	3
PHAR	210	Physiology II	2
		Elective (General) ¹	4

			18
Fifth Semester			
PHAR	301	Pharmaceutics	3
PHAR	303	Instrumental Analysis	3
PHAR	305	Isolation and Identification of Natural Products	3
PHAR	307	Pharmaceutical Microbiology I	3
PHAR	309	Biochemistry I	3
PHAR	311	Medicinal Chemistry I	3

			18

Sixth Semester			Credit
PHAR	302	Design and Formulation of Drug Delivery Systems	3
PHAR	304	Nutropharmaceutical & Cosmetics Analysis	3
PHAR	306	Medicinal Chemistry II	3
PHAR	308	Phytochemistry I	3
PHAR	310	Pharmaceutical Microbiology II	3
PHAR	312	Biochemistry II	3

			18
Seventh Semester			
PHAR	401	Principles and Kinetics of Drug Stability	3
PHAR	403	Medicinal Chemistry III	3
PHAR	405	Phytochemistry II	3
PHAR	407	Pharmacology I	3
PHAR	409	Medical Microbiology	3
PHAR	411	Industrial Pharmacy	3

			18
Eighth Semester			
PHAR	402	Biopharmaceutics and Pharmacokinetics	3
PHAR	404	Medicinal Chemistry IV	3
PHAR	406	Evaluation of Crude Drugs	3
PHAR	408	Pharmacology II	3
PHAR	410	Parasitology and Pathology	3
PHAR	412	Public Health	1
		Elective ²	2

			18
Ninth Semester			
PHAR	501	Community Pharmacy & Pharmaceutical Legislations	3
PHAR	503	Microbiological Quality Control	2
PHAR	505	Clinical Pharmacy I	3
PHAR	507	Biological Evaluation & Screening of Drugs	3
PHAR	509	Pharmaceutical Technology	3
		Elective ³	3

			17
Tenth Semester			
PHAR	502	Hospital Pharmacy	3
PHAR	504	Toxicology and First Aid	3
PHAR	506	Physico Chemical Quality Control	3
PHAR	508	Clinical Pharmacy II	2
		Elective ³	7

			18

¹ A total of 16 credits is required as General University Requirements; 7 credits are selected from the University Mandatory courses list including-ARAB 001 (2 Cr.), ENGL 001 (2 Cr.), CMPG 001 (2Cr.), LAWS 001 (1 Cr.), and another 9 credits are selected from the University Elective courses list.

² Chosen from the 400 level courses offered by the faculty.

³ Chosen from the 500 level courses offered by the faculty.

ELECTIVE COURSES

PHAR 420 Cell and Molecular Biology (2 Cr.), PHAR 424 Modern Theories in Biological Analysis (2 Cr.), PHAR 426 Herbal Medicine (2 Cr.), PHAR 428 Selected Topics in Pharmacology (2 Cr.), PHAR 430 Pharmacotherapeutics I (2 Cr.), PHAR 520 Forensic Pharmacognosy (2 Cr.), PHAR 522 Pharmacotherapeutics II (3 Cr.), PHAR 523 Veterinary Pharmacy (2 Cr.), PHAR 524 Pharmaceutical Biotechnology and Genetic Engineering (2 Cr.), PHAR 525 Selected Topics in Drug Design (2 Cr.), PHAR 526 Communication Skills for Health Professionals (2 Cr.), PHAR 528 Introduction to Epidemiology & Pharmacoepidemiology (2 Cr.).

University Requirement Elective Course

PHAR 001 Medicinal Herbs (1 Cr.)

POSTGRADUATE PROGRAMS OFFERED DEGREES

The Faculty of Pharmacy offers the following postgraduate degrees:

1. Diplomas in: Biochemical Analysis, Hospital Pharmacy and Clinical Pharmacy.
2. Master Degree in Pharmaceutical Sciences.
3. Doctor in Clinical Pharmacy (Pharm. D).
4. Doctor of Philosophy in Pharmaceutical Sciences Degree, PhD.

Both the Master and PhD Degrees are offered in the following specializations:

1. Analytical Chemistry & Quality Control
2. Pharmaceutical Chemistry
3. Pharmacognosy & Medicinal Plants
4. Pharmaceutics & Industrial Pharmacy
5. Pharmacology, Toxicology & Biochemistry
6. Pharmaceutical Microbiology

PROGRAM DESCRIPTION

Diploma in Biochemical Analysis and Hospital Pharmacy

The degree requirements consist of a total of 30 credit hours taken as follows:

- Mandatory Courses: 18 Cr.
- Faculty Elective Courses: 12 Cr.
- Research Project:: 6 Cr.

Diploma in Clinical Pharmacy

The degree requirement consists of a total of 30 credit hours taken as follows:

- Mandatory Courses: 30 Cr.

Doctor in Clinical Pharmacy (Pharm.D)

The Doctor of Pharmacy Degree consists of a total of 38 Cr. divided as follows:

- Mandatory Courses: 32 Cr.
- Thesis: 6 Cr.

The 1st & 2nd semesters involve course work and the 3rd & 4th involve clinical training in an accredited hospital.

Master Degree in Pharmaceutical Sciences

The Master Degree Program consists of a total of 36 Cr. divided as follows:

- Mandatory Courses: 16 Cr.
- Specialized Elective Courses: 14 Cr.
- Thesis: 6 Cr.

All specialized Elective Courses are selected in accordance to the field of specialization. Thesis registration starts at the beginning of the 3rd semester.

PhD in Pharmaceutical Sciences

The PhD Program consists of a total of 40 Cr. divided as follows:

- Specialized Elective Courses 12 Cr.
- Thesis 28 Cr.

All specialized Elective Courses are selected in accordance to the field of specialization.

DIPLOMA IN BIOCHEMICAL ANALYSIS

Curriculum

(30 Credits Hours)

First Semester			Credit
PHAR	601	Applied Biochemistry I	3
PHAR	603	Chemical Pathology I	3
MEDC	601	Histology & Physiology	3
PHAR	701	Absorption and Emission Spectroscopy	3
		Elective ¹	4

			16
Second Semester			
PHAR	602	Applied Biochemistry II	3
PHAR	604	Chemical Pathology II	3
		Elective ¹	8

			14

¹ Selected from the following courses:

MATH 665 Biostatistics for Pharmacists (2 Cr.) , CMPS 312 Database Systems for Pharmacists (2 Cr.), PHAR 702 Topics in Chromatographic Techniques (3 Cr.), PHAR 703 Advanced Course in Drug Analysis (3 Cr.), PHAR 704 Scientific Writing and Research Skills (2 Cr.), PHAR 707 Modern Topics in Electrochemistry (2 Cr.).

DIPLOMA IN HOSPITAL PHARMACY

Curriculum

(30 Credits Hours)

First Semester			Credit
PHAR	605	Pharmaceutical Dosage Forms	4
PHAR	607	Parenterals	2
PHAR	609	Advanced Microbiology	3
PHAR	611	Sera and Vaccines	2
		Elective ¹	4

			15
Second Semester			
PHAR	606	Pharmaceutical Laws	2
PHAR	608	Hospital Food Analysis	2
PHAR	610	Advanced Applied Microbiology	3
		Elective ¹	8

			15

¹ Selected from the following courses:

PHAR 738 Fundamentals of Immunology (2Cr.), MATH 665 Biostatistics for Pharmacists (2 Cr.), CMPS 312 Database System for Pharmacists (2 Cr.), PHAR 704 Scientific Writing and Research Skills (2 Cr.), PHAR 706 Drug Library and Literature Searching (2 Cr.), PHAR 737 Antibiotics and Chemotherapy (2 Cr.).

DIPLOMA IN CLINICAL PHARMACY

Curriculum (30 Credits Hours)

First Semester			Credit
PHAR	743	Pharmacotherapeutics I	3
PHAR	745	Basic Clinical Pharmacy	2
PHAR	747	Clinical Lab Investigations	3
PHAR	749	Biopharmaceutics	2
PHAR	751	Clinical Pharmacokinetics I	3
PHAR	753	Pharmacotherapeutics II	3

			16
Second Semester			
PHAR	748	Pharmaco Epidemiology	2
PHAR	750	Drug Monitoring and Hospital Training	3
PHAR	752	Clinical Pharmacokinetics II	3
PHAR	754	Pharmacotherapeutics III	3
PHAR	756	Pharmacotherapeutics IV	3

			14

MASTER DEGREE IN PHARMACEUTICAL SCIENCES

Curriculum (36 Credits Hours)

First Semester			Credit
PHAR	701	Absorption and Emission Spectroscopy	3
CHEM	618	Advanced Physical Chemistry for Pharmacists	2
CMPS	312		2
		Data Base Systems for Pharmacists	---
			7
Second Semester			
PHAR	702	Topics in Chromatographic Techniques	3
MATH	665	Biostatistics for Pharmacists	2
PHAR	704	Scientific Writing and Research Skills	2
PHAR	706		2
		Drug Library and Literature Searching	---
			9
Third & Fourth Semesters			
		Specialized Elective Courses ¹	14

			14
PHAR	799	Thesis	6

			6

¹. Specialized Elective Courses are selected according to the field of specialization and upon the recommendation of the academic supervisor from the following list:

PHAR 703 Advanced Course in Drug Analysis (3 Cr.) , PHAR 705 Drug Quality Control (3 Cr.), PHAR 707 Modern Topics in Electrochemistry (2 Cr.), PHAR 708 Chemometric Methods of Analysis (2 Cr.), PHAR 709 Modern Techniques in Biological Analysis (2 Cr.), PHAR 710 Advanced Organic Pharmaceutical Chemistry I (3 Cr.), PHAR 711Advanced Organic Pharmaceutical Chemistry II (3 Cr.), PHAR 712 Advanced Medicinal Chemistry I (3 Cr.), PHAR 713 Drug Design I (3 Cr.), PHAR 714 Advanced Topics in IR, NMR & Mass Spectrometry (3 Cr.), PHAR 715 Isolation and Chromatographic Techniques (4 Cr.), PHAR 716 Quality Control of Crude Drugs and Phytopharmaceuticals (3 Cr.), PHAR 717 Spectral and Chemical Characterization of Natural Products (4 Cr.), PHAR 718 Selected Topics in Natural Products (3 Cr.), PHAR 719 Advanced Physical Pharmacy (3 Cr.), PHAR 720 Drug Delivery Systems (3 Cr.), PHAR 721 Advanced Biopharmacy and Pharmacokinetics (3 Cr.), PHAR 722 Selected Topics in Pharmaceutics (3 Cr.), PHAR 723 & PHAR 724 Pharmaceutical Technology I (3 Cr.), PHAR 725& PHAR 726 Pharmaceutical Unit Operation (2 Cr.), PHAR 727 Molecular Pharmacology (3 Cr.), PHAR 728 Special Topics in Toxicology (3 Cr.), PHAR 729 Special Topics in Biochemistry (3 Cr.), PHAR 730 Experimental Pharmacology (2 Cr.), PHAR 731 Advanced Course in Pharmaceutical Biochemistry Part I (3 Cr.), PHAR 732 Advanced Course in Pharmaceutical Biochemistry Part II (3 Cr.), PHAR 733 Advanced General Microbiology (3 Cr.), PHAR 734 Microbiology Quality Control (2 Cr.), PHAR 735 Pharmaceutical Microbiology (3 Cr.), PHAR 736 Molecular Techniques (3 Cr.), PHAR 737 Antibiotics and Chemotherapy (2 Cr.), PHAR 738 Fundamentals of Immunology (2 Cr.), PHAR 739 Medical Bacteriology (1 Cr.), PHAR 740 & PHAR 741 Seminar, PHAR 742 Neuropharmacology (3 Cr.), PHAR 744 Immunopharmacology (3 Cr.), PHAR 755 Pharmacogenetics & Pharmacogenomics (3 Cr.), PHAR 757 Experimental Toxicology (2 Cr.).

DOCTOR IN CLINICAL PHARMACY (PHARM.D)

Curriculum (38 Credits Hours)

First Semester			Credit
PHAR	743	Pharmacotherapeutics I	3
PHAR	745	Basic Clinical Pharmacy	2
PHAR	747	Clinical Lab Investigations	3
PHAR	749	Biopharmaceutics	2
PHAR	751	Clinical Pharmacokinetics I	3
PHAR	753	Pharmacotherapeutics II	3
		---	16
Second Semester			
PHAR	746	Pharmacoeconomics	2
PHAR	748	Pharmaco Epidemiology	2
PHAR	750	Drug Monitoring and Hospital Training	3
PHAR	752	Clinical Pharmacokinetics II	3
PHAR	754	Pharmacotherapeutics III	3
PHAR	756	Pharmacotherapeutics IV	3
		---	16
PHAR	799	Thesis	6
		---	6

PhD IN PHARMACEUTICAL SCIENCES

Curriculum (40 Credits Hours)

Courses	Credit
Specialized Elective Courses ¹	12

	12
PHAR 899 Thesis	28

	28

¹ Specialized Elective Courses are selected upon the recommendation of the academic supervisor according to the field of specialization from the following lists:

PHAR 801 Research Project (3 Cr.), PHAR 802 Modern Theories in Drug Analysis (3 Cr.), PHAR 803 New Automation Systems Used in Analysis (3 Cr.), PHAR 804 Advanced Analytical Techniques (2 Cr.), PHAR 805 New Methods for Paramedical Analysis (2 Cr.), PHAR 806 Modern Concepts on Pharmaceutical Analysis and Computer Sciences (3Cr.), PHAR 807 Total and Retrosynthesis of Pharmaceutical Compounds (2Cr.), PHAR 808 Advanced Stereochemistry (2 Cr.), PHAR 809 Pericyclic and Cycloaddition Reactions (2 Cr.), PHAR 810 Advanced Heterocyclic Chemistry (2 Cr.), PHAR 811 Synthetic and Natural Pharmaceutical Polymers (2 Cr.), PHAR 812 Synthesis of Peptides, Nucleotides and Related Drugs (2 Cr.), PHAR 813 Modern Theories in Drug Design (2 Cr.), PHAR 814 Selected Topics in Molecular Genetics (2 Cr.), PHAR 815 Modern Theories in Biodegradation and Biodegradation (3 Cr.), PHAR 816 Advanced Applications of Biotechnology (3 Cr.), PHAR 817 New Researchers in Virology (2 Cr.), PHAR 818 Advanced Biopharmaceutics and Pharmacokinetics (2 Cr.), PHAR 819 Molecular Pharmaceutics (2 Cr.), PHAR 820 Pharmaceutical Biotechnology (2 Cr.), PHAR 821 Tissue Engineering (2 Cr.), PHAR 822 Bioinformatics from a Pharmaceutical Perspective (2 Cr.), PHAR 823 Selected Topics in Industrial Pharmacy (3 Cr.), PHAR 824 A Mechanistic Biosynthetic and Ecological Approach of Natural Products Chemistry (3 Cr.), PHAR 825 Advanced Techniques in Drug Technology (3 Cr.), PHAR 826 Biotransformation of Natural Products (3 Cr.), PHAR 827 Pharmacobiotechnology of Natural Products (3 Cr.), PHAR 828 Advanced Biochemistry (3 Cr.), PHAR 829 Advanced Selected Topics Related to the Point of Research (3 Cr.), PHAR 830 Cell Signaling (2 Cr.), PHAR 831 Advanced Topics in Neuropharmacology (3 Cr.), PHAR 832 Protein Structure and Function (3 Cr.), PHAR 833 Physiological and Biochemical Bases of Human Nutrition (3 Cr.), PHAR 834 Departmental Seminar and Journal (1 Cr.), PHAR 835 Steroid Hormones (2 Cr.), PHAR 836 Advanced Biochemical Techniques (3 Cr.), PHAR 837 DNA/Protein Interaction (2 Cr.), PHAR 838 Current Topics in Molecular Biology (1 Cr.), PHAR 839 Vaccine Technologies (3 Cr.), PHAR 840 Molecular Immunology (3 Cr.), PHAR 841 Microbial Contamination Control in the Pharmaceutical Industry (3 Cr.), PHAR 842 Biotechnology of Antibiotics (3 Cr.), PHAR 843 Advanced Topics in Experimental Pharmacology (3 Cr.), PHAR 844 Advanced Topics in Molecular Pharmacology (3 Cr.), PHAR 845 Advanced Topics in Immunopharmacology (3 Cr.), PHAR 846 Advanced Topics in Pharmacogenetics & Pharmacogenomics (3 Cr.), PHAR 847 Research Topics in cardiovascular & Renal Pharmacology (3 Cr.), PHAR 848 Research Topics in Neuromuscular Pharmacology (3 Cr.), PHAR 849 Research Topics in CNS Pharmacology (3 Cr.), PHAR 850 Research Topics in GIT Pharmacology (3 Cr.), PHAR 851 Advanced Phytotherapy (3 Cr.).