

Program Report

B.Sc. in Pharmaceutical Sciences

۲۰۰۷ / ۲۰۰۸

١- Program Report

B.Sc. in pharmaceutical Sciences

A- Basic Information.

١- Program Title : B.Sc. in pharmaceutical Sciences

٢- Year ٢٠٠٧/٢٠٠٨

٣- Program Type: Single Double Multiple

٤- Faculty (Faculties): Pharmacy

٥-Department (Departments):

١- Pharmaceutics

٢- Pharmacognosy

٣- Medicinal Chemistry

٤- Pharmaceutical Organic Chemistry.

٥- Pharmaceutical Analytical Chemistry.

٦- Industrial Pharmacy

٧- Assistant Coordinator:

٨- Coordinator: Prof. Dr. Adel Fawzy

B- Statistics:

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٢٠٠٣/٢٠٠٤

Grade	Attended	Absent	Joined exam	Successful students												September exam	Failed	Rejected	% of Passed students
				Excellent		Very good		Good		Passed		Referred students		Total					
				No.	%	No.	%	No.	%	No.	%	No.	%	No.	%				
Pre Pharmacy	٨٩٦	-	٨٩٦	٣٩	٤,٤	١٩٦	٢١,٩	٢٩٨	٣٣,٣	٧٣	٨,١	٢٣٦	٢٦,٣	٨٤٢	٩٤	-	٤٩	٥	٩٤
First year	٦٦٧	-	٦٦٧	٩	١,٣	٧٩	١١,٨	٢١٦	٣٢,٥	٧٣	١٠,٩	٢١٧	٣٢,٥	٥٩٤	٨٩,١	-	٦٤	٩	٨٩,١
Second year	٦٥٢	-	٦٥٢	٢٠	٣,١	١٦٥	٢٥,٣	٢٥٥	٣٩,١	٤٠	٦,١	١٢٣	١٨,٩	٦٠٣	٩٢,٥	-	٣٩	١٠	٩٢,٥
Third year	٦٤٨	-	٦٤٨	١٤	٢,٢	٨٣	١٢,٨	٢٠١	٣١,١	٧٥	١١,٦	٢٠٣	٣١,٣	٥٧٦	٨٨,٩	-	٥٥	١٧	٨٨,٩
Fourth year	٦٠٩	٧	٦٠٢	٨	١,٣	٨٤	١٣,٧	٢٥٣	٤١,٥	٨٢	١٣,٥	-	-	٤٢٧	٧٠,٩	١٣١	٣٥	٩	٧٠,٩
Total	٣٤٧٢	٧	٣٤٦٥	٩٠	٢,٦	٦٠٧	١٧,٥	١٢٢٣	٣٥,٢	٣٤٣	٩,٩	٧٧٩	٢٢,٤	٣٠٤٢	٨٧,٨	١٣١	٢٤٢	٥٠	٨٧,٨

B- Statistics:

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٢٠٠٤/٢٠٠٥

Grade	Attended	Absent	Joined exam	Successful students												September exam	Failed	Rejected	% of Passed students
				Excellent		Very good		Good		Passed		Referred students		Total					
				No.	%	No.	%	No.	%	No.	%	No.	%	No.	%				
Pre Pharmacy	١٠١٨	-	١٠١٨	٤٤	٤,٣	٢٦٩	٢٦,٥	٣٩٠	٣٨,٤	٦٤	٦,٣	٢٠٣	٢٠,٢	٩٧٠	٩٢,٣	-	٣٨	١٠	٩٢,٣
First year	٧٣٢	-	٧٣٢	١٨	٢,٥	٩٨	١٣,٤	١٨٦	٢٥,٤	٦٠	٨,٥	٢٦١	٣٥,٨	٦٢٣	٨٥,١	-	١٠٦	٣	٨٥,١
Second year	٥٨٤	-	٥٨٤	٢٦	٤,٥	١٣٧	٢٣,٥	١٩٦	٣٢,٤	٤١	٦,٢	١٣٦	٢٤,٣	٥٣٦	٩١,٩	-	٤٥	٣	٩١,٩
Third year	٦٦٠	-	٦٦٠	١٠	١,٥	١٠٣	١٥,٧	٢٨٤	٤٣,٣	٦٦	٩,٩	١٥٠	٢٢,٨	٦١٣	٩٢,٩	-	٤٧	-	٩٢,٩
Fourth year	٦٣٢	-	٦٣٢	٨	١,٣	١٠٠	١٥,٩	٢٧٩	٤٤,٤	٥٧	٩,١	-	-	٤٤٤	٧٠,٣	١٢٢	٦٦	-	٧٠,٣
Total	٣٦٢٦	-	٣٦٢٦	١٠٦	٢,٩	٧٠٧	١٩,٥	١٣٣٥	٣٦,٨	٢٨٨	٧,٩	٧٥٠	٢٠,٧	٣١٨٦	٨٧,٩	١٢٢	٣٠٢	١٦	٨٧,٩

B- Statistics:

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۲۰۰۵/۲۰۰۶

Grade	Attended	Absent	Joined exam	Successful students												September exam	Failed	Rejected	% of Passed students
				Excellent		Very good		Good		Passed		Referred students		Total					
				No.	%	No.	%	No.	%	No.	%	No.	%	No.	%				
Pre Pharmacy	۷۱۹	-	۷۱۹	۲۷	۳,۸	۲۰۴	۲۸,۲	۲۸۰	۳۸,۹	۴۱	۵,۷	۱۲۱	۱۶,۸	۶۷۳	۹۳,۶	-	۳۹	۷	۹۳,۶
First year	۷۶۱	-	۷۶۱	۱۰	۱,۳	۹۷	۱۲,۷	۲۲۵	۲۹,۶	۷۶	۹,۹	۲۵۱	۳۲,۹	۶۵۹	۸۶,۶	-	۸۷	۱۵	۸۶,۶
Second year	۶۱۸	-	۶۱۸	۱۵	۲,۴	۹۹	۱۶	۱۹۶	۳۱,۷	۵۷	۹,۲	۱۷۱	۲۷,۷	۵۳۸	۸۷,۱	-	۶۷	۱۳	۸۷,۱
Third year	۵۵۰	-	۵۵۰	۲۴	۴,۴	۱۱۷	۲۱,۲	۲۰۶	۳۷,۵	۳۶	۶,۵	۱۱۷	۲۱,۳	۵۰۰	۹۰,۹	-	۳۱	۱۹	۹۰,۹
Fourth year	۶۸۷	-	۶۸۷	۱۲	۱,۷	۱۲۱	۱۷,۶	۳۴۵	۵۰,۲	۷۶	۱۱,۱	-	-	۵۵۴	۸۰,۶	۹۶	۲۳	۱۴	۸۰,۶
Total	۳۳۳۵	-	۳۳۳۵	۸۸	۲,۶	۶۳۸	۱۹,۱	۱۲۵۲	۳۷,۵	۲۸۶	۸,۶	۶۶۰	۱۹,۸	۲۹۲۴	۸۷,۷	۹۶	۲۴۷	۶۸	۸۵,۶

B- Statistics:

B-٤

٢٠٠٦/٢٠٠٧

Grade	Attended	Absent	Joined exam	Successful students												September exam	Failed	Rejected	% of Passed students
				Excellent		Very good		Good		Passed		Referred students		Total					
				No.	%	No.	%	No.	%	No.	%	No.	%	No.	%				
Pre Pharmacy	٨٤٤	-	٨٤٤	٢١	٢,٥	١٩٣	٢٢,٩	١٨٨	٢٢,٣	٨	٠,٩	٣٠٧	٣٦,٤	٧١٧	٨٤,٩	-	١١٣	٢٢	٨٤,٩
First year	٧١٣	-	٧١٣	١٥	٢,١	١٢٩	١٨,١	١٩٤	٢٧,٢	٦٧	٩,٤	٢٤٦	٣٤,٥	٦٥١	٩١,٣	-	٤٦	١٦	٩١,٣
Second year	٦٦٥	-	٦٦٥	٢٣	٣,٥	١٢١	١٨,٢	٢٥٢	٣٧,٩	٦٣	٩,٥	١٩٤	٢٩,٢	٦٥٣	٩٨,٢	-	٣٠	٨	٩٨,٢
Third year	٥٧١	-	٥٧١	١٩	٣,٣	١١٢	١٩,٦	٢٣٣	٤٠,٨	٣٣	٥,٨	١٣٥	٢٣,٦	٥٣٢	٩٣,٢	-	٢٦	١٥	٩٣,٢
Fourth year	٥٤٢	-	٥٤٢	١٠	١,٨	١١٨	٢١,٨	٢٥٦	٤٧,٢	٥١	٩,٤	-	-	٤٣٥	٨٠,٣	٦٦	٢٧	١٤	٨٠,٣
Total	٣٣٣٥		٣٣٣٥	٨٨	١٣,٢	٦٧٣	١٠٠,٦	١١٢٣	١٧٥,٤	٢٢٢	٣٥	٨٨٢	١٢٣,٧	٢٩٨٨	٨٩,٥٨	٦٦	٢٤٢	٧٥	٨٩,٥٨

B- Statistics:

B-٤

٢٠٠٧/٢٠٠٨

Grade	Attended	Absent	Joined exam	Successful students												September exam	Failed	Rejected	% of Passed students
				Excellent		Very good		Good		Passed		Referred students		Total					
				No	%	No	%	No.	%	No	%	No.	%	No.	%				
Pre Pharmacy	١٠١٢		١٠١٢	٣	٠,٣٠	١٣٢	١٣,٠٤	٢٢٩	٢٢,٦٣	٢٢	٢,١٧	٤١٦	٤١,١١	٨٠٢	٧٩	-	١٩١	١٩	٧٩
First year (old)	٥٧		٥٧	.	.	.	.	٢	٣,٥١	٣٧	٦٤,٩١	١٣	٢٢,٨١	٥٢	٩١	-	٣	٢	٩١
First year (new)	٦٧٢		٦٧٢	٥٦	٨,٣٣	٢٠٠	٢٩,٧٦	١٩٦	٢٩,١٧	٥	٠,٧٤	١٧٠	٢٥,٣٠	٦٢٧	٩٣	-	٤٥	.	٩٣
Second year	٦٧٧		٦٧٧	٢٩	٤,٢٨	١٩١	٢٨,٢١	٢٣٨	٣٥,١٦	٣٣	٤,٨٧	١٤٥	٢١,٤٢	٦٣٦	٩٤	-	٣٥	١	٩٤
Third year	٦٨١		٦٨١	١١	١,٦٢	١٠٣	١٥,١٢	٣١٢	٤٥,٨١	٥٣	٧,٧٨	١٥٧	٢٣,٠٥	٦٣٦	٩٣	-	٣٨	٥	٩٣
Fourth year	٥٧٨		٥٧٨	١٢	٢,٠٨	١١٤	١٩,٧٢	٢٩٦	٥١,٣٨	٤٧	٧,٩٦	٧٣	١٢,٦٣	٥٤١	٩٤	٧٢	٢٣	.	٩٤
Total	٣٦٧٧		٣٦٧٧	١١١		٧٤٠		١٢٧٤		١٩٦		٩٧٤		٣٢٩٥		٧٢	٣٣٥	٢٧	

C- Professional Information.

1-Academic standards.

1,1- Adoption of program curriculum to academic standards and aims.

Subject	Lectures	Practical	Total*	%
1-Basic Sciences {62,0(31,0%)}				
Physical, inorganic and organic chemistry	8	6	14	17,6
Zoology	4	4	8	9,6
Computer Science	2	2	4	4,8
Physics	6	4	10	12,8
Botany	6	6	12	14,4
English	4	-	4	4,8
Organic pharmaceutical chemistry	10	11	21,0	24,8
Essentials of mathematics	4	-	4	4,8
Psychology	2	-	2	2,4
2-Applied Pharmaceutical Sciences {110(55,0%)}				
Pharmaceutical analytical chemistry	8	14	22	27,2
Pharmacognosy	9	12,0	21,0	26,2
Pharmaceutics	19	26	45	56,2
Microbiology	4	4	8	10,2
Pharmacology	4	0	4,0	5,0
Phytochemistry	6	6	12	15,2
Biochemistry	4	4	8	10,2
Pharmaceutical medicinal chemistry	8	10	18	22,5
Industrial pharmacy	4	2,0	6,0	7,5
Applied pharmacognosy	4	6	10	12,5
3-Medical Sciences {13,0(6,5%)}				
Anatomy	1	1	2,0	2,5
Histology	1	1	2,0	2,5
Physiology	4	-	4	5,0
Pathology	1	1	2,0	2,5
Biostatistics and Bioassay	4	2	6	7,5
4-Health and environmental Sciences {8,0(4,0%)}				
Parasitology	1	1	2,0	2,5
Public Hygiene	2	-	2	2,5
Toxicology, forensic chemistry and first aid	4	2	6	7,5
5-Pharmacy management, Marketing and Pharmacoconomics {2(1%)}				
Pharmacy administration	2	-	2	2,5
6-Pharmacy Practice**				
	-	300	201,0**	

* المجموع بعد حساب كل ساعتين عملي تكافئ ساعة نظري
** الحسابات لا تشمل ساعات التدريب الصيفي

١,٢- Learning outcomes (ILOs) of the completed program.

a-Knowledge and Understanding: having successfully completed this program the graduate should have knowledge about:

- a^١- fundamentals of basic sciences: botany, zoology, physics, mathematics, computer science, general and organic chemistry, psychology in the level that prepare for sound comprehension of pharmaceutical and medical subjects.
- a^٢- fundamentals of medical basic sciences .
- a^٣- basic understanding of the physical and chemical properties of the materials that go into industrial manufacture of medicines and certain medical devices and appliances .
- a^٤- physico-chemical aspects of medicines and biological systems, including thermodynamics, chemical kinetics and assessment of chemical and physical stability also.
- a^٥- disease attributes: microbial, pathogenic, parasitic, viral and of metabolic disorders.
- a^٦- normal and abnormal body function: Physiology, Biochemistry, Genetics, Microbiology, Nutrition, Immunology, Infective processes, Histology, Pathology and Pathophysiology.
- a^٧- detailed knowledge about drug formulation , packaging and storage.
- a^٨- essentials of pharmacokinetics and bioavailability of medicines.

Understand the following:

- a^٩- significance of a healthy life style including relevant diet, nutrition, exercise and environment.
- a^{١٠}- etiology, pathogenesis and epidemiology of major diseases
- a^{١١}- profound knowledge of the actions, uses, adverse reactions, and toxicity of medicines.
- a^{١٢}- interactions of drugs together or with food and abuse of medicines also.
- a^{١٣}- absorption, distribution, metabolism and excretion of medicines, including routes of administration, and mathematical modeling
- a^{١٤} – properties roles and limitation of use medicinal and toxic plants.
- a^{١٥}- sources and purification of medicines of synthetic, natural, biotechnology products and excipients.
- a^{١٦}- assay of drugs: chemical , biological and drug monitoring
- a^{١٧}- non-pharmacological approaches for treatment of diseases .
- a^{١٨}- the relevant law, ethics, and codes of practice in community and industry.
- a^{١٩}- understands the principles of unit operations in drug manufacture.
- a^{٢٠}- Understand how to scan and express fluently pharmaceutical and medical texts in English.

b- Intellectual Skills:

- b¹- prepare medicines for individual patient use
- b²- the ability to advise patients and others about the relationship between human body system safe and effective use of medicines
- b³- Organize the logical thinking to be able to find appropriate methods for directing patient toward enhanced therapeutic efficiency.
- b⁴- design, implement, monitor, evaluate, and modify or recommend modifications in drug therapy to insure effective, safe, and economical patient care.
- b⁵- identify, assess, and solve medication and environmental related problems.
- b⁶- design and evaluate packaging and labeling processes.
- b⁷- predict the properties of medicinal agents and their relation to molecular structure
- b⁸- Specify, rationalize and develop physical, analytical and microscopical methods applicable for control of biological and chemical products and analysis of medicines in bulk and in dosage forms.
- b⁹- rational choice of adjuvant/s used for delivery and in formulation of biologically active molecules.
- b¹⁰- control of microbial contamination, sterilization processes, and aseptic procedures.
- b¹¹- ability to integrate information and propose approaches for monitoring and design of medicinal agents of different sources.
- b¹²- applies acquired principles for medicine formulation and systems for medicine delivery in the body.
- b¹³- ability to gather, comprehend, and assesses reliably scientific data.
- b¹⁴- collaborate with others as active partner in drug research team
- b¹⁵- Rationalize the suitable drug (s) affecting specific diseases related to biochemical disorders.

c- Professional and Practical Skills:

- c¹- evaluates drug orders or prescriptions,
- c²- accurately and safely compounds package and dispense medicines in appropriate dosage forms.
- c³- present oral and written information about drugs and pharmaceuticals .
- c⁴- provide supportive clinical services such as drug information, drug surveillance, drug delivery and distribution in different body organs and systems.
- c⁵- presentation and filing of medicines-based health care material and arguments clearly and correctly, with other health professionals and, where appropriate, to lay audiences.
- c⁶- cognitive dispensing of dressings, diagnostic systems, medical appliances and devices.
- c⁷- production of pharmacy specific documentation.
- c⁸- the operation of standard pharmaceutical instrumentation
- c⁹- skills in the analysis of medicines, biological sample and statistical treatment and presentation of data.
- c¹⁰- the ability to undertake risk assessments concerning different pharmaceutical preparations.
- c¹¹- Clarify the impact of certain clinical analytical reports.

c¹²- Provide good advice about balanced diet to promote the efficiency of medication and give hand in poisoning cases.

d- General and Transferable Skills:

- d¹- information technology skills, including word processing, spreadsheet use, database use, archiving data and information retrieval through online computer searches, and internet communication.
- d²- calculation of medicine doses and dosage regimens.
- d³- interpretation of prescriptions and other orders for medicines
- d⁴- recommend, counsel, and monitor patient use of nonprescription drugs.
- d⁵- provide emergency first aids.
- d⁶- ability to interact effectively with patients, the public and health care professionals ; including communication, both written and oral.
- d⁷- critical evaluation, interpretation of pharmaceutical information and data.
- d⁸- an ethical attitude and approach
- d⁹- independent study skills and problems solving in groups for continuing professional development.
- d¹⁰- work in a variety of health care settings: team working, or need to work within personal limitations.

1,2,3- Teaching methods.

Teaching methods	Programme ILOs (By No.)			
	K, U *	IS **	P.S ***	G.T.S ****
Lecture	a ¹ , a ² , a ³ , a ⁴ , a ⁵ , a ⁶ , a ⁷ , a ⁸ , a ⁹ , a ¹⁰ , a ¹¹ , a ¹² , a ¹³ , a ¹⁴ , a ¹⁵ , a ¹⁶ , a ¹⁷ , a ¹⁸ , a ¹⁹	b ² , b ³ , b ⁴ , b ⁵ , b ⁶ , b ⁷ , b ⁸ , b ⁹ , b ¹⁰ , b ¹¹ , b ¹² , b ¹³	c ⁴ , c ⁵ , c ⁶ , c ⁷ , c ⁸ , c ⁹ , c ¹⁰ , c ¹¹ , c ¹²	d ¹ , d ² , d ³ , d ⁴ , d ⁵ , d ⁶ , d ⁷ , d ⁸ , d ⁹
Lab	a ⁴ , a ⁵ , a ⁶ , a ⁷ , a ⁸ , a ⁹	b ¹ , b ⁶ , b ⁸	c ¹ , c ² , c ⁶ , c ⁸ , c ⁹	d ¹ , d ² , d ³ , d ⁴

- * Knowledge and Understanding
- ** Intellectual Skills
- *** Professional and Practical Skills
- **** General and Transferable Skills

1,2,2- Learning Methods.

Learning methods	Programme ILOs (By No.)			
	K, U *	IS **	P.S ***	G.T.S ****
Tutorial		b ₂ , b ₃ , b ₄ , b ₈ , b ₉	c ₁ , c ₇ , c ₉ , c ₁₁ , c ₁₂	d ₂ , d ₃ , d ₄ , d ₈ , d ₉ , d ₁₁ , d ₁₂
Seminars		b ₂ , b ₃ , b ₇ , b ₁₁ , b ₁₈	c ₃ , c ₈	d ₁ , d ₇
Essay and Reports		b ₈ , b ₁₃ , b ₁₄	c ₃	d ₁ , d ₆ , d ₉
Field Training	a ₇ , a ₁₂ , a ₁₇ , a ₁₈	b ₁ , b ₂ , b ₃ , b ₄ , b ₈	c ₂ , c ₈ , c ₇ , c ₁₀ , c ₁₁ , c ₁₂	d ₂ , d ₃ , d ₄ , d ₈ , d ₉ , d ₁₁ , d ₁₂

- * Knowledge and Understanding
- ** Intellectual Skills
- *** Professional and Practical Skills
- **** General and Transferable Skills