Program specification

Bachelor of Pharmaceutical sciences degree

توصيف برنامج بكالوريوس الصيدلة (البرنامج العام)

Program Specification

Faculty: Pharmacy **University**: Fayoum

A. Basic Information

1. Program title: Bachelor of Pharmacy
2. Program type: Single
3. Departments:
    1. Biochemistry Dept.
    2. Chemistry Dept.
    3. Pharmacognosy Dept.
    4. Microbiology Dept.
    5. Pharmacology and toxicology Dept.
    6. Pharmacy Practice Dept.
    7. Pharmaceutics and pharmaceutical technology Dept.
    8. Department allied to Faculty of Medicine
    9. Departments allied to other Faculties of Fayoum University

4- Coordinator: Prof. Dr. Abd-El Salam Ibrahim.

5- Internal Evaluator(s):

a. Internal Evaluator: Prof. Dr. Mona H. Hetta, Prof. Dr Gamal Farag.

6- Degree Awarded:

The Faculty of Pharmacy awards its graduates the Bachelor Degree in Pharmacy , after successful completion of the approved study program.

B- Professional Information

1- Mission:

The Faculty of Pharmacy at Fayoum University aspires to become a distinguished college in the field of pharmaceutical education and advanced scientific research related to pharmaceutical sciences and to graduate a pharmacist who knows all the requirements of the profession and the latest branches of pharmacology and all modern technologies that make him a distinguished pharmacist qualified to work in all pharmaceutical fields such as public and private pharmacies, pharmaceutical factories and companies, pharmaceutical control laboratories and food analysis, in addition to working in the field of media, pharmaceutical

4- Graduates Attributes:

They should demonstrate comprehensive knowledge, clear understanding and outstanding skills as follows:

1. Handle chemicals and pharmaceutical products effectively and safely with respect to relevant laws and legislations.
2. Capable of formulating, preparing pharmaceutical products from different sources and participating in systems for dispensing, storage and distribution of medications.
3. Perform various qualitative and quantitative analytical techniques and fulfil criteria of GLP and GPMP to assure the quality of raw materials, procedures and pharmaceutical products.
4. Provide information and education services to community and patients about rational use of medications and medical devices.
5. Comprehend principles of pathophysiology of diseases and participate with other health care professionals in improving health care services using evidence-based data.
6. Plan, design and conduct research using appropriate methodologies.
7. Develop presentation, promotion, marketing, business administration, numeric and computation skills.
8. Demonstrate capability of communication skills, time management, critical thinking, problem-solving, decision-making and team-working.
9. Perform responsibilities in compliance with legal, ethical and professional rules.
10. Able to be a life-long learner for continuous improvement of professional knowledge and skills.

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5. Intended Learning Outcomes (ILOs):

A- Knowledge and Understanding:

By the end of the program, the student should be able to:

a1. Mention the principles of pharmaceutical sciences and pharmacy practice.

a2. Summarize the physicochemical properties of drugs and the selected additives which are commonly incorporated into pharmaceutical dosage forms.

a3. List the basic requirements for qualitative and quantitative analysis of the raw and pharmaceutical materials.

a4. Apply the pharmaceutical principles in a scientific manner, to solve some formulation problems.

a5. Define the fundamentals of pharmaceutical technology.

a6. Determine the principles of various instruments of drug information, packaging and storage.

a7. Acquire skills to identify the different formulations of cosmetics and their products and know the hazards from improper using or dealing with cosmetics.

a8. Describe the pharmacokinetics, route of administration and bioavailability of medicine in variable pharmaceutical preparations and application in pharmacy practice.

a9. Distinguish principles of causes and symptoms of infectious diseases, environmental and nutritional disorders and their treatments.

a10. Recognize the concepts of pharmaceutical industry techniques with the ability to solve formulation problems encountered.

a11. Outline the information about biosynthesis, chemistry, biological activities and quality control of natural drugs.

a12. List the epidemiological principles of disease prevalence of the parasite and different methods for clinical & laboratory diagnosis of parasitic diseases.

a13. Mention the pharmacology, toxicity, and methods of evaluation of different drug classes.

a14. State the different preparation methods, reaction mechanisms, chemical & biological assays and structural identification of the pharmaceutical synthetic compounds.

a15. Apply molecular biology and metabolic pathways in the specific diagnosis of the diseases.

a16. Know the information about physical pharmacy, clinical pharmacy and pharmacokinetic tasks.

a17. Define the principles and applications of complementary and alternative tools of conventional medicine

a18. Understand the formulation of different dosage forms, principles of dosage form design, embracing controlled, targeted and advance d drug delivery systems.

a19. Understand concept of production and development processes starting from the raw materials and ending with the final pharmaceutical product.

a20. Describe the principles of current Good pharmaceutical manufacturing practice (GPMP), quality control & assurance, of pharmaceutical products.

a21. Outline the etiology, epidemiology, line of treatments, drug pharmacological effects used in treatment of the major diseases.

a22. List the principles of management, drug promotion, business administration and health policy relevant to pharmacy.

a23. Mention the principles of pharmaceutical public health and community services especially the safe use and disposal of medicines

a24. Mention the biological and therapeutic uses of active ingredients from natural products.

a25. List the biosynthetic pathways of natural products either from micro or macro-organisms.

a26. List the quality control methods for the medicinal herbs according to World Health Organization (WHO).

a27. Define the different classes of the active ingredients of plants

a28. List different terminology used in the pharmaceutical and medical fields.

a29. Describe the law relating to pharmacy and medicine, ethics of health care and its impact on relationships with patients and other healthcare professionals.

a30. Define the toxic profile of different drugs and xenobiotics.

a31. Describe the principle of hospital pharmacy and different IV admixtures.

a32. Illustrate methods of biostatistical analysis and pharmaceutical calculation.

B. Intellectual Skills:

By the end of the Program, the student should be able to:

b1. Apply knowledge to prepare safe and effective medicines for individual patient use.

b 2. Evaluate different tools applied in solving pharmaceutical problems.

b3. Estimate patient care drug related problems.

b4. Demonstrate the qualitative and quantitative analytical and biological methods for quality assurance of raw materials and pharmaceutical preparation.

b5. Calculate the dose regimen of medications and do interpretation, compounding and dispensing of prescriptions.

b6. Select the appropriate methods of isolation, synthesis, purification, identification, and standardization of active substances from different origins.

b7. Predict physicochemical and biological incompatibilities that may occur during drug dispensing.

b8. Relate the principles of bio-informatics and computer- aided tools in drug design.

b9. Apply information of biotechnology and pharmaco-economics principles and propose approaches for monitoring and design of medicinal agents of different sources.

b10. Explore the information required in pharmacy practice, making logical deductions, giving clear advice and critical decisions about patient's state of health.

b11. Apply pharmacological basis of therapeutics in the proper selection and use of drugs in various disease conditions.

b12. Asses the performance in the field of pharmaceutical production and marketing.

b13. Know and apply GLP, GPMP, GSP and GCP guidelines in pharmacy practice.

b14. Recognize the effective and economical use of medicine.

C- Professional and practical skills:

By the end of the program, the student should be able to:

c1. Apply safety instructions in different laboratory instruments and glassware.

c2. Handle chemicals and hazardous chemicals and materials according to safety guidelines.

c3. Implement concepts of pharmaceutical industry and application of quality assurance and GMP regulations adequately.

c4. Use the pharmaceutical terms, abbreviations and symbols in pharmacy practice properly.

c5. Utilize different techniques for evaluation and detection of adulteration of medicinal plants.

c6. Design suitable formulation for medicinal products.

c7. Prescribe OTC medications, council patient about adverse drugs effects and interpret the results.

c8. Utilize pharmacopoeia monographs and instructions in identification and assay of drugs.

c9. Determine methods of synthesis, separation and identification of organic compounds.

c10. Select the appropriate medication therapy for a given disease based on its etiology, pathophysiology, patient history.

c11. Control microbial growth and carry out laboratory tests to identify infectious and non-infectious diseases, aseptic procedures.

c12. Determine the toxicity profiles of different xenobiotics and detect poisons.

c13. Assess information about new drugs, their toxic effects, and design a method for evaluation.

c14. Predict possible drug metabolic pathways and construct different strategies for drug design.

c15. Provide patients and health care professionals with advice about safe and proper use of medicine.

c16. Dispense medicines in appropriate dosage forms accurately and safely.

c17. Apply different pharmaceutical instrumentation and lab procedure.

D-General and Transferable Skills:

By the end of the Program, the student should be able to:

d1. Work effectively in a team in in various professional contexts.

d2. Organize the scientific background frequently and apply the skills of project management.

d3. Communicate effectively with the public and heath care professionals in all situations.

d4. Apply essential information technology skills, presentation skills, research skills, and self-learning to obtain information and knowledge

d5. Manage time successfully.

d6. Develop market management skills.

d7. Provide good advice the public and heath care professionals in all situations.

d8. Apply life-long learning and identify personal learning needs.

d9. Using different skills to calculate dosage regimens to the patients.

d10. Develop rules and indicators for assessing the performance of others.

6- Academic Reference Standards

A: External references:

National Academic Reference Standards (NARS, first edition January 2009) was adopted as external reference standards guiding the Faculty of Pharmacy, Fayoum University aiming to create its own academic standards.

B: Comparison of provision to selected external references:

The curriculum committee of clinical program- Faculty of Pharmacy, Fayoum University has performed Comparison between the program ILO's and the National Academic Reference Standards (NARS) (Matrix 1).

Matrix 1: Comparison between the National Academic Reference Standards (NARS) and the program ILO's.

KNOWLEDGE AND UNDERSTANDING:	
NARS	**Program ILO's**
2.1. Principles of basic, pharmaceutical, medical, social, behavioral, management, health and environmental sciences as well as pharmacy practice.	a1- a9- a12- a13- a15- a17- a21
2.2. Physical-chemical properties of various substances used in preparation of medicines including inactive and active ingredients as well as biotechnology and radio- labeled products.	a2- a11- a15- a16
2.3. Principles of different analytical techniques using GLP guidelines and validation procedures	a3- a14- a20
2.4. Principles of isolation, synthesis, purification, identification, and Standardization methods of pharmaceutical compounds.	a11- a14- a24
2.5. Principles of drug design, development and synthesis.	a11- a14- a16
2.6. Properties of different pharmaceutical dosage forms including novel Drug delivery systems.	a18- a20
2.7. Principles of various instruments and techniques including sampling, manufacturing, packaging, labeling, storing and distribution processes in pharmaceutical industry.	a5- a6- a10- a19- a20
2.8. Principles of pharmacokinetics and biopharmaceutics with applications In therapeutic drug monitoring, dose modification and bioequivalence studies.	a8- a16
2.9. Principles of hospital pharmacy including L.V. admixtures, TPN and drug distribution system,	a16- a31
2.10. Principles of public health issues including sources and control of Microbial contamination as well as sanitation, disinfection, sterilization methods and microbiological QC of pharmaceutical products.	a23
2.11. Principles of body function in health and disease states as well as basis of genomic and different biochemical pathways regarding their correlation with different diseases.	a9- a15- a21

2.12. Etiology, epidemiology, laboratory diagnosis and clinical features of different diseases and their pharmaco-therapeutic approaches.	a9- a12
2.13. Pharmacological properties of drugs including mechanisms of action, therapeutic uses, dosage, contra- indications, ADRs and drug interactions.	a13- a15
2.14. Principles of clinical pharmacology, pharmacovigilance and the rational use of drugs.	a13- a15- a16- a21
2.15. Basis of complementary and alternative medicine.	a17
2.16. Toxic profile of drugs and other xenobiotics including sources, identification, symptoms, management control and first aid measures.	a13- a21- a30
2.17. Methods of biostatistical analysis and pharmaceutical calculations.	a32
2.18. Principles of management including financial and human resources.	a22
2.19. Principles of drug promotion, sales and marketing, business administration, accounting and pharmaco-economics.	a22
2.20. Principles of proper documentation and drug filing systems.	a20- a29
2.21. Regulatory affairs, pharmacy laws and ethics of health care and pharmacy profession.	a29
PROFESSIONAL AND PRACTICAL SKILLS	
NARS	**Program ILO's**
3.1. Use the proper pharmaceutical and medical terms, abbreviations and symbols in pharmacy practice.	c4- c8
3.2. Handle and dispose chemicals and pharmaceutical preparations safely.	c1- c2
3.3. Compound, dispense, label, store and distribute medicines effectively and safely.	c7- c16
3.4. Extract, isolate, synthesize, purify, identify, and /or standardize active Substances from different origins.	c5- c6- c8- c9
3.5. Select medicines based on understanding etiology and path physiology of diseases.	c7- c10- c13
3.6 Monitor and control microbial growth and carry out laboratory tests for identification of infectious and non-infections in biological specimens.	c2-c11
3.7. Apply techniques used in operating pharmaceutical equipment and instruments.	c1-c3-c17
3.8. Maintain public awareness on rational use of drugs and social health hazards of drug abuse and misuse.	c7-c13
3.9. Advise patients and other health care professionals about safe and proper use Of medicines.	c4-c15
3.10. Conduct research studies and analyze the results.	c13
3.11. Employ proper documentation and drug filing systems.	c2- c3- c8- c14
INTELLECTUAL SKILLS	
NARS	**Program ILO's**
4.1. Apply pharmaceutical knowledge in the formulation of safe and Effective medicines as well as in dealing with new drug delivery systems.	b1—b12
4.2. Comprehend and apply GLP, GPMP, GSP and GCP guidelines in pharmacy practice.	b2-b4
4.3. Apply qualitative and quantitative analytical and biological methods for QC and assay of raw materials as well as pharmaceutical preparations.	b4- b6
4.4. Recognize and control possible physical and/or chemical	b2- b3- b7- b11

incompatibilities that may occur during drug dispensing.	
4.5. Select the appropriate methods of isolation, synthesis, purification, identification, and standardization of active substances from different origins.	b6
4.6. Apply the principles of bio – informatics and computer –aided tools in drug design.	b8
4.7. Apply various principles to determine the characteristics of biopharmaceutical products.	b7- b9- b12
4.8. Select and assess appropriate methods of infection control to prevent infections and promote public health.	b10
4.9. Utilize the pharmacological basis of therapeutics in the proper selection and use of drugs in various disease conditions.	b7- b10- b11
4.10. Calculate and adjust dosage and dose regimen of medications.	b5- b7
4.11. Assess drug interactions, ADRs and pharmacovigilance.	b2- b11
4.12. Apply the principles of pharmaco-economics in promoting cost/effective	b14
4.13. Analyze and evaluate evidence-based information needed in pharmacy practice.	b3- b7- b10
GENERAL AND TRANSFERABLE SKILLS	
NARS	**Program ILO's**
5.1. Communicate clearly by verbal and means.	d3
5.2. Retrieve and evaluate information from different sources to improve Professional competencies.	d7
5.3. Work effectively in a team.	d1
5.4. Use numeracy, calculation and statistical methods as well as information technology tools.	d9
5.5. Adopt ethical, sales and safety guidelines.	d1- d10
5.6. Develop financial, sales and market management skills.	d2- d6
5.7. Demonstrate creativity and time management abilities.	d4- d5
5.8. Implement writing and presentation skills.	d4
5.9. Implement writing and thinking, problem- solving and decision-making abilities.	d1

Curriculum Structure and Contents:

- Program duration: 5 years.
- Program levels (in credit hours system): 5 levels / 10 semesters
- Program structure:

No. of credit hours:

Lectures: 127 hrs Lab / Exercise: 49 hrs Total: 176 hrs

These 176 credit hours are divided as follows:

University requirements: 10 credit

Faculty requirements: 154 credit hrs

Elective courses: 12 credit

Practical/Field Training: 300 credit hrs

Professional Information

1- Program curriculum structure

Subject	Clin (%)	NARS (%)
1- Basic Sciences	10.93	10-15
2- Pharmaceutical Sciences	38.54	35-40
3- Medical Sciences	27.08	15-25
4- Pharmacy Practice	10.93	10-15
5- Health and environmental Sciences	5.2	5-10
6- Behavioral and Social Sciences	2.6	2-4
7- Pharmacy management, Marketing and Pharmacoeconomics	1.56	2-4
8- Elective and complementary courses	3.12	Up to 8.0 %

Summer training:

In addition to the above mentioned courses, the student is required to conduct at least 300 credit hours training under the supervision of a specialized faculty member in one of the pharmaceutical institute approved by the College Council (according to Article 8 of the regulation).

١ ـ قسم الصيدلانيات:

مسلسل	رقم كودي	اســـم المقـــرر	متطلب دراسته
١	١٠١	تاريخ ومدخل الصيدلة	-----
٢	١٠٢	صيدلة فيزيائية	-----
٣	١٠٣	صيدلانيات (١)	(صيدلة فيزيائية)
٤	١٠٤	حاسب آلي*	--------
٥	١٠٥	محاسبة التكاليف في الصيدلة*	----------
٦	١٠٦	صيدلانيات (٢)	(صيدلانيات ١)
٧	١٠٧	صيدلانيات (٣)	(صيدلانيات ٢)
٨	١٠٨	صيدلانيات (٤)	(صيدلانيات ٣)
٩	١٠٩	صيدلة حيوية وحركية الدواء	(صيدلانيات ٣)
١٠	١١٠	صيدلة صناعية (١)	(صيدلة حيوية وحركية الدواء)
١١	١١١	صيدلة صناعية (٢)	(صيدلة صناعية ١)
١٢	١١٢	مراقبة وتاكيد الجودة	(صيدلة صناعية ١)
١٣	١١٣	مهارات التواصل والتفاوض*	---------
١٤	١١٤	التسجيل الدوائي "مقرر اختياري"	----------
١٥	١١٥	اقتصاديات الدواء* "مقرر اختياري"	----------
١٦	١١٦	مبادئ الإدارة* "مقرر اختياري"	----------
١٧	١١٧	تشريعات صناعة وتداول الأدوية "مقرر اختياري"	---------

٢ - قسم العقاقير

مسلسل	رقم كودي	اســـم المقـــرر	متطلب دراسته
١	٢٠١	نبات ونباتات طبية	--------
٢	٢٠٢	عقاقير (١)	(نبات و نباتات طبية)
٣	٢٠٣	عقاقير (٢)	(عقاقير ١)
٤	٢٠٤	عقاقير (٣)	(عقاقير ٢)
٥	٢٠٥	كيمياء عقاقير (١)	(عقاقير١)
٦	٢٠٦	كيمياء عقاقير (٢)	(كيمياء عقاقير ١)
٧	٢٠٧	نواتج طبيعية ومراقبة جودة	عقاقير ٣- كيمياء عقاقير(٢)
٨	٢٠٨	التداوي بالأعشاب	(كيمياء عقاقير ٢)
٩	٢٠٩	العقاقير البحرية "مقرراختياري"	---------
١٠	٢١٠	لغة إنجليزية*	--------

*مقررات مسئولية واشراف وكيل الكلية لشئون الطلاب

٢ - قسم العقاقير

مسلسل	رقم كودي	اســـم المقـــرر	متطلب دراسته
١	٢٠١	نبات ونباتات طبية	--------
٢	٢٠٢	عقاقير (١)	(نبات و نباتات طبية)
٣	٢٠٣	عقاقير (٢)	(عقاقير ١)
٤	٢٠٤	عقاقير (٣)	(عقاقير ٢)
٥	٢٠٥	كيمياء عقاقير (١)	(عقاقير١)
٦	٢٠٦	كيمياء عقاقير (٢)	(كيمياء عقاقير ١)
٧	٢٠٧	نواتج طبيعية ومراقبة جودة	عقاقير ٣- كيمياء عقاقير(٢)
٨	٢٠٨	التداوي بالأعشاب	(كيمياء عقاقير ٢)
٩	٢٠٩	العقاقير البحرية "مقرراختياري"	---------
١٠	٢١٠	لغة إنجليزية*	--------

*مقررات مسئولية واشراف وكيل الكلية لشئون الطلاب

٤ - قسم الميكروبيولوجيا والمناعة:

مسلسل	رقم كودي	اســـم المقـــرر	متطلب دراسته
١	٤٠١	علم الأمراض و الطفيليات	----------
٢	٤٠٢	مكروبيولوجيا ومناعة	علم الأمراض و الطفيليات
٣	٤٠٣	مكروبيولوجيا طبية	مكروبيولوجيا ومناعة
٤	٤٠٤	صحة عامة	مكروبيولوجيا طبية
٥	٤٠٥	مكروبيولوجيا صيدلية	صحة عامة
٦	٤٠٦	تقنية حيوية	مكروبيولوجيا صيدلية

٥ -قسم الكيمياء العضوية الصيدلية:

مسلسل	رقم كودي	اســـم المقـــرر	متطلب دراسته
١	٥٠١	كيمياء عضوية صيدلية (١)	----------
٢	٥٠٢	كيمياء عضوية صيدلية (٢)	(كيمياء عضوية صيدلية ١)
٣	٥٠٣	مبادئ الرياضيات*	----------
٤	٥٠٤	كيمياء عضوية صيدلية (٣)	كيمياء عضوية صيدلية(٢)
٥	٥٠٥	كيمياء عضوية صيدلية (٤)	كيمياء عضوية صيدلية (٣)

* مقررات مسئولية واشراف وكيل الكلية لشئون الطلاب

٦ـقسم الكيمياء التحليلية الصيدلية:

مسلسل	رقم كودي	اســـم المقـــرر	متطلب دراسته
١	٦٠١	كيمياء فيزيائية + كيمياء عامة*	----------
٢	٦٠٢	كيمياء تحليلية صيدلية (١)	----------
٣	٦٠٣	كيمياء تحليلية صيدلية (٢)	(كيمياء تحليلية صيدلية ١)
٤	٦٠٤	كيمياء تحليلية صيدلية (٣)	(كيمياء تحليلية صيدلية ٢)
٥	٦٠٥	تحليل آلي	(كيمياء تحليلية صيدلية ٣)
٦	٦٠٦	تحليل الأغذية "مقرر اختياري"	----------

*مقررات مسئولية واشراف وكيل الكلية لشئون الطلاب

٧ـ قسم الكيمياء الحيوية الصيدلية:

مسلسل	رقم كودي	اســـم المقـــرر	متطلب دراسته
١	٧٠١	كيمياء حيوية صيدلية (١)	----------
٢	٧٠٢	كيمياء حيوية صيدلية (٢)	(كيمياء حيوية صيدلية ١)
٣	٧٠٣	كيمياء اكلينيكية وبيولوجيا جزئية	(كيمياء حيوية صيدلية ٢)
٤	٧٠٤	الهندسة الوراثية التطبيقية "مقرر اختياري"	----------
٥	٧٠٥	تغذية إكلينيكية "مقرر اختياري"	(كيمياء حيوية صيدلية ٢)

٨-قسم الكيمياء الدوائية:

مسلسل	رقم كودي	اســـم المقـــرر	متطلب دراسته
١	٨٠١	كيمياء دوائية (١)	(كيمياء عضوية ٢)
٢	٨٠٢	كيمياء دوائية (٢)	(كيمياء دوائية ١)
٣	٨٠٣	كيمياء دوائية (٣)	(كيمياء دوائية ٢)
٤	٨٠٤	تصميم الأدوية "مقرر اختياري"	----------
٥	٨٠٥	تشييد الأدوية "مقرر اختياري"	----------
٦	٨٠٦	حقوق الانسان*	----------

* مقررات مسئولية واشراف وكيل الكلية لشئون الطلاب

٩ - قسم الصيدلة الاكلينيكية:

مسلسل	رقم كودي	اســـم المقـــرر	متطلب دراسته
١	٩٠١	صيدلة اكلينيكية	----------
٢	٩٠٢	صيدلة مستشفيات	----------
٣	٩٠٣	ممارسة صيدلية وصيدلة مجتمع	----------
٤	٩٠٤	معلومات دوائية	----------
٥	٩٠٥	الإعلام والتسويق الدوائي	----------
٦	٩٠٦	الصيدلة الإكلينيكية المتخصصة "مقرر اختياري"	----------
٧	٩٠٧	الممارسة الصيدلية الإكلينيكية "مقرر اختياري"	----------
٨	٩٠٨	حركية الدواء الإكلينيكية "مقرر اختياري"	----------
٩	٩٠٩	الاتصالات في الصيدلة "مقرر اختياري"	----------
١٠	٩١٠	اقتصاديات الدواء الإكلينيكية "مقرر اختياري"	----------

* مقررات مسئولية واشراف وكيل الكلية لشئون الطلاب

المستوى الأول –الفصل الدراسي الأول											
الرقم الكودي	اسم المقرر	عدد الساعات المعتمدة	عدد الساعات التدريسية		النهاية العظمى للدرجات					المجموع	مدة الامتحان
			نظرى	عملى	نظرى	عملى	أعمال فصل	شفوى			
١٦٠١	كيمياء فيزيائية و عامة	٣	٢	٢	١٠٠	٣٠	٢٠	--		١٥٠	٢
١٥٠١	كيمياء عضوية صيدلية(١)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠		١٥٠	٢
١٦٠٢	كيمياء تحليلية صيدلية(١)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠		١٥٠	٢
١٢٠١	نباتات و نباتات طبية	٣	٢	٢	٨٠	٣٠	٢٠	٢٠		١٥٠	٢
١١٠١	تاريخ الصيدلة	٢	٢	--	٨٠	--	٢٠	--		١٠٠	٢
١٥٠٣	مباديء الرياضيات	٢	٢	--	٨٠	--	٢٠	--		١٠٠	٢
١١١٤	لغة إنجليزية	٢	٢	--	٨٠	--	٢٠	--		١٠٠	٢
إجمالـــــــــي		١٨								٩٠٠	

الرقم الكودي	اسم المقرر	عدد الساعات المعتمدة	عدد الساعات التدريسية		النهاية العظمى للدرجات				المجموع	مدة الامتحان
			نظري	عملي	نظري	عملي	أعمال فصل	شفوي		
	المستوى الأول ـ الفصل الدراسي الثاني									
١١٠٢	صيدلة فيزيائية	٣	٢	٢	٨٠	٥٠	٢٠	--	١٥٠	٢
١٥٠٢	كيمياء عضوية صيدلية(٢)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
١٦٠٣	كيمياء تحليلية صيدلية(٢)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
١٢٠٢	عقاقير(١)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
١١٠٤	حاسب آلي	٢	١	١	٥٠	٣٠	٢٠	--	١٠٠	١
١٣٠١	علم التشريح	٢	١	١	٦٠	٢٠	١٠	١٠	١٠٠	٢
١٣٠٢	مصطلحات طبية	١	١	--	٤٠	--	١٠	--	٥٠	١
إجمالـــــــــــي		١٧							٨٥٠	

المستوى الثاني-الفصل الدراسي الثالث											
الرقم الكودي	اسم المقرر	عدد الساعات المعتمدة	عدد الساعات التدريسية		النهاية العظمى للدرجات				المجموع	مدة الامتحان
			نظري	عملي	نظري	عملي	أعمال فصل	شفوي		
٢٥٠٤	كيمياء عضوية صيدلية(٣)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٢٦٠٤	كيمياء تحليلية صيدلية(٣)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٢٢٠٣	عقاقير(٢)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٢١٠٣	صيدلانيات (١)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٢٣١٣	علم الأنسجة	٣	٢	١	٦٠	٢٥	١٥	-	١٠٠	٢
٢٣١٤	علم وظائف الأعضاء	٣	٢	٢	٨٠	٥٠	١٠	١٠	١٥٠	٢
إجمالـــــــــــــــي		١٨							٨٥٠	

المستوي الثاني – الفصل الدراسي الرابع										
الرقم الكودي	اسم المقرر	عدد الساعات المعتمدة	عدد الساعات التدريبية		النهاية العظمى للدرجات				المجموع	مدة الإمتحان
			نظري	عملي	نظري	عملي	أعمال فصل	شفوي		
٢٥٠٥	كيمياء عضوية صيدلية(٤)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٢٦٠٤	تحليل آلي	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٢٢٠٤	عقاقير(٣)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٢١٠٦	صيدلانيات (٢)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٢٤٠١	علم الأمراض والطفيليات	٣	٢	٢	١٠	٣٠	٢٠	٢٠	١٥٠	٢
٢٣١١	علم النفس	١	١	-	٤٠	-	١٠	-	٥٠	١
إجمالـــــــــــــي		١٦							٨٠٠	

المستوى الثالث ـ الفصل الدراسي الخامس										
الرقم الكودي	اسم المقرر	عدد الساعات المعتمدة	عدد الساعات التدريسية		النهاية العظمى للدرجات				المجموع	مدة الامتحان
			نظري	عملي	نظري	عملي	اعمال فصل	شفوي		
٢٢٠٥	كيمياء عقاقير (١)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٣٤٠٢	مكروبيولوجيا + مناعة	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٣٣٠٣	علم الأدوية (١)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٣٧٠١	كيمياء حيوية صيدلية (١)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٣١٠٧	صيدلانيات (٣)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٣١١٣	مهارات التواصل والتفاضل	٢	٢	--	٦٠	--	٤٠	--	١٠٠	١
إجمالـــــــي		١٧							٨٥٠	

الرقم الكودي	اسم المقرر	عدد الساعات المعتمدة	عدد الساعات التدريسية		النهاية العظمى للدرجات				المجموع	مدة الإمتحان
			نظري	عملي	نظري	عملي	أعمال فصل	شفوي		
المستوي الثالث ـ الفصل الدراسي السادس										
٣٢٠٦	كيمياء عقاقير (٢)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٣٤٠٣	ميكروبيولوجيا طبية	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٣٣٠٤	علم الأدوية (٢)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٣٧٠٢	كيمياء حيوية (٢)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٣١٠٨	صيدلة مستشفيات	٢	١	٢	٧٠	٢٠	١٠	--	١٠٠	٢
١	مقرر إختياري (١)	٢	٢	--	٨٠	--	٢٠	--	١٠٠	٢
٣٣٠٨	إسعافات اولية	١	١	--	٤٠	--	١٠	--	٥٠	١
إجمالـــــــــي		١٧							٨٥٠	

المستوي الرابع – الفصل الدراسي السابع											
الرقم الكودي	اسم المقرر	عدد الساعات المعتمدة	عدد الساعات التدرسية		النهاية العظمى للدرجات				المجموع	مدة الامتحان
			نظري	عملي	نظري	عملي	فصل أعمال	شفوي		
٤٣٠٥	علم الادوية (٣)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٤٨٠١	كيمياء الدوائية	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٤٧٠٣	كيمياء إكلينيكية وبيولوجيا جزيئية	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٤١١٤	ممارسة صيدلية وصيدلة مجتمع	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٤٤٠٤	صحة عامة	٢	٢	--	٧٠	--	٢٠	١٠	١٠٠	٢
٤٣٠٧	تفاعلات الادوية	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٤٢٠٨	التداوي بالأعشاب	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
اجمالـــــــي		٢٠							١٠٠٠	

المستوي الرابع – الفصل الدراسي الثامن										
الرقم الكودي	اسم المقرر	عدد الساعات المعتمدة	عدد الساعات التدريسية		النهاية العظمى للدرجات				المجموع	مدة الإمتحان
			نظري	عملي	نظري	عملي	فصل أعمال	شفوي		
٤٣٠٦	إحصاء وتقييم حيوي	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٤٨٠٢	كيمياء صيدلية (٢)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٤٣٠٧	علم السموم	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٤١٠٨	صيدلانيات (٤)	٢	٢	--	٧٠	--	١٠	٢٠	١٠٠	٢
٤١٠٩	صيدلة حيوية وحركة الدواء	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٤٢٠٩	تسويق وإعلام دوائي	١	١	--	٤٠	--	١٠	--	٥٠	١
٤	مقرر اختياري (٢)	٢	2	--	٨٠	--	٢٠	--	١٠٠	٢
إجمالـــــــــي		١٧							٨٥٠	

المستوي الخامس – الفصل الدراسي التاسع										
الرقم الكودي	اسم المقرر	عدد الساعات المعتمدة	عدد الساعات التدريسية		النهاية العظمى للدرجات				المجموع	مدة الإمتحان
			نظري	عملي	نظري	عملي	فصل	أعمال	شفوى	
٥١١٠	صيدلة صناعية (١)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٥٤٠٥	ميكروبيولوجيا صيدلية	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٥١٠٩	صيدلة إكلينيكية	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٥٨٠٣	كيمياء صيدلية (٣)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٥٢٠٧	نواتج طبيعية ومراقبة جودة	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٥	مقرر اختياري (٣)	٢	٢	--	٨٠	--	٢٠	--	١٠٠	٢
٥	مقرر اختياري (٤)	٢	٢	--	٨٠	--	٢٠	--	١٠٠	٢
إجمالـــــــــي		١٩							٩٥٠	

المستوي الخامس – الفصل الدراسي العاشر										
الرقم الكودي	اسم المقرر	عدد الساعات المعتمدة	عدد الساعات التدريسية		النهاية العظمى للدرجات				المجموع	مدة الامتحان
			نظري	عملي	نظري	عملي	اعمال فصل	شفوى		
٥١١١	صيدلة صناعية (٢)	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٥١١٢	مراقبة وتاكيد الجودة	٣	٢	٢	٨٠	٣٠	٢٠	٢٠	١٥٠	٢
٥٤٠١	تقنية حيوية	٣	٢	٢	٧٠	--	١٠	٢٠	١٠٠	٢
٥١١٥	معلومات دوائية	١	١	١	٤٠	--	١٠	--	٥٠	١
٥٨٠١	حقوق الإنسان	١	١	--	٤٠	--	١٠	--	٥٠	١
١٠٥	مبادئ إدارة	٢	٢	--	٨٠	--	٢٠	--	١٠٠	٢
٥	مقرر اختياري (٥)	٢	٢	--	٨٠	--	٢٠	--	١٠٠	٢
٥	مقرر اختياري (٦)	٢	٢	--	٨٠	--	٢٠	--	١٠٠	٢
إجمالـــــــــي		١٧							٨٠٠	

Program admission requirements:

The faculty fulfills the admission regulations and requirements of the Egyptian Supreme Council of Universities (ESCU). The applicant should have obtained the general certificate of secondary education (scientific section) or an equivalent certificate from a foreign institute recognized by ESCU. Admission of graduates from the Faculties of Medicine, Veterinary Medicine, Dentistry, Nursing, Science and Agriculture **has canceled.**

The Course load:

The Course load is the number of registered credit hours per student each semester.

- The academic load in each semester ranges from 12 to 20 credit hours.
- The academic load in the summer semester ranges from 4 to10 credit hours.
- Credits acquired by the student are those of passed courses from the registered academic load.

Add , Drop and Withdrawal:

Students are allowed to add or drop a course or more during a specified time every semester. Students are allowed to withdraw from a course prior to a deadline set by the university. The course will carry a grade of "W" and students will be allowed to retake the course when available. Students who withdraw after the deadline will not be allowed to sit for the relevant exam and will carry a grade of "F" for that course.

Transfer Admission Rules:

- Transfer students must fulfill the Faculty of Pharmacy admission requirements.
- Courses completed at another faculty are evaluated for equivalency to the Faculty of Pharmacy courses.
- The faculty from which the student is to be transferred should be accredited.

Assessment:

- Student performance is assessed by both course work and examination at the end of each course.

- Methods of assessments include written oral and practical examination, research paper, course assignments, periodical assessment, presentation, library exercise and practical work.

Relation between clinical program ILO's and student assessment methods

ILO's	Methods of achievement and assessment
Knowledge and understanding skills	Written, periodical and oral examination
Intellectual skills	Written, periodical, oral examination and summer training
Professional and practical skills	Practical examination and summer training
General and transferable skills	Oral examination, presentation and assignments

The performance of a student in an individual course measured by Grades

Grade expression	Grade scale	Grade point average value (GPA)	Numerical scale marks
Excellent	A^+	4	≥ 95%
	A	3.8	90 - < 95%
	A^-	3.6	85 - < 90%
Very good	B^+	3.4	80- < 85%
	B	3.2	75 - < 80%
Good	C^+	2.8	70 - < 75%

	C	2.6	65 - < 70%
	D	2.4	60 - < 65%
Fail	F	0	< 60%
Withdraw	W	.....	Withdrwal

- Grade point average (GPA)

- A grade point average (GPA) based on the ratio of points earned divided by the number of credits earned.
- Registration symbols that do not carry grade points or credit:
    1. T: Transfer, indicates credit transferred from another institution.
    2. W: withdrawal prior to deadline indicates a student has officially withdrawn from a course.

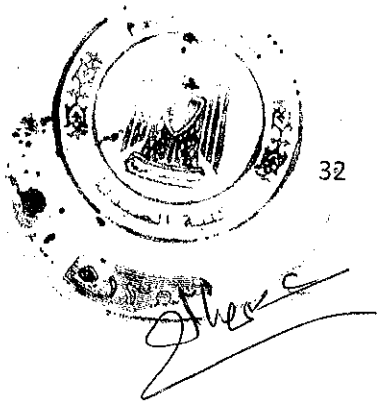
- Failure in courses:
    1. Student who fails to attend the final examination.
    2. Student who fails to achieve 30% of the marks in the final written examination.
    3. Student who fails to achieve 60% of the total marks.

Regulations for progression and program completion:

- Student should attend 75% of lectures and laboratory sections.
- The successful completion of the prerequisite course is an obligatory condition to register any course.
- Student who fails to pass a required course will be allowed to repeat this course.
- Student who fails to pass an elective course will be allowed to repeat this course or register for another elective course.

Academic difficulty:

- A student who fails to maintain a minimum cumulative GPA of "1" for six consecutive semesters or for a total of ten semesters will be dismissed from the faculty.



- Students are allowed to repeat course with a grade "D" under supervision of an academic advisor in order to improve their cumulative GPA. The higher grade of any repeated course is used in GPA calculation.

Leave of Absence :

- Students may apply for a leave of absence of two continuous semesters or for a total of three non-continuous semesters.
- Students granted a leave of absence must meet the graduation requirements in effect at the time of graduation.

Graduation:

Students receive the bachelor of pharmaceutical science degree (clinical pharmacy) on completion of the requisite number of credit hours (176 credit hours) with a cumulative GPA equivalent to 1 or above and the required training.

Evaluation of program intended learning outcomes

Evaluator	Tool
1. Senior students	Questionnaire - Discussions
2. Alumni (n graduate student till now)	Questionnaire - Discussions
3. Stakeholders (Employers)	Questionnaire - Discussions
4. External Evaluator(s) (External Examiner(s))	Oral exams - Questionnaire
5. Internal Evaluators	Dr. Gamal Farag

Program Coordinator Prof.

Dr. Abd-El Salam Ibrahim

Dean of the Faculty

Prof. Dr. Mona H. Hetta