

Faculty of Pharmaceutical Sciences and Pharmaceutical Industries

Program Specifications (Academic Year 2014/2015-Old Curriculum)

A. Basic Information

Program Title: Bachelor degree in Pharmaceutical Sciences and Pharmaceutical Industries

Program Type: Single

Departments Delivering

Program

- a-Faculty Departments**
- Department of Pharmacognosy and Medicinal Plants
 - Department of Pharmaceutical Technology
 - Department of Pharmacology and Toxicology
 - Department of Pharmaceutical Chemistry
 - Department of Microbiology
 - Department of Pharmacy Practice and Clinical Pharmacy

b-Other Faculties and/or departments participating in delivering the program:

- Faculty of Computer Sciences:
- Faculty of Economy and Political Sciences:
- Faculty of Medicine:
- English Language Department

Coordinator: Prof. Dr. Hanan Refaat – Vice Dean For Educational and Students Affairs

Internal Evaluator: Prof. Dr. Seham Elkheshen

External Evaluator (s): Prof. Dr. Sahar El-Sweefy

Last date of program specifications approval: October 2014

B. Professional Information

1. General Program Aim

The aim of this program is to ensure providing graduates with proper education, training and all the necessary qualifications for working in various pharmacy aspects including multi-disciplinary healthcare systems and pharmaceutical industries. The graduate can apply research, continue self-learning, respect the ethical code of the profession and contribute effectively in the society and in international cooperation.

I. Program Aims towards graduate attribute

The graduates of the Faculty of Pharmaceutical sciences and Pharmaceutical industries, Future University should demonstrate outstanding knowledge and skills as follows:

- I.1. Handle chemicals poison and pharmaceutical products that include narcotics, biological specimen and laboratory animals effectively and safely with respect to relevant laws and legislations.
- I.2. Formulate and prepare pharmaceutical products from different sources.
- I.3. Dispense, store and distribute medications.
- I.4. Carry out qualitative and quantitative analysis of raw materials and pharmaceutical products fulfilling criteria of GLP and GPMP.
- I.5. Assure the quality of raw materials and pharmaceutical products of different natures.
- I.6. Inform the community and patients about rational use of medications.
- I.7. Provide information to community, patients and health professionals about the use of medical devices.
- I.8. Demonstrate principles of pathophysiology of plenty of diseases.
- I.9. Provide information to improve health care services using evidence-based medicine.
- I.10. Select appropriate methodologies to design and conduct researches.
- I. 11. Develop numeric and computation skills.
- I.12. Develop presentation, promotion and marketing and business administration skills.
- I.13. Communicate effectively with others and work in a team.
- I.14. Demonstrate critical thinking and problem solving skills.
- I.15. Demonstrate capabilities of time-management and decision-making.
- I.16. Perform duties in compliance with professional rules in a legal and ethical framework.
- I.17. Improve self-profession by continuous and lifelong learning.
- I.18. Apply enhanced pharmaceutical industries' skills.

2. Intended learning outcomes (ILOs) for program:

II. Knowledge and Understanding:

By the end of the program, the faculty graduate should have good comprehension of:

- II.1. Principles of basic (including physical, organic chemistry, analytical chemistry, mathematics and computer sciences), pharmaceutical, medical, social, behavioral, health and environmental sciences as well as pharmacy management and pharmacy practice.
- II.2. Types of active and inactive ingredients from various sources used in preparation of medicines and their properties.
- II.3. Properties of products, instruments and methods used in biotechnology.
- II.4. Physico-chemical properties of radio-labeled products used in preparation of medicine.
- II.5. Principles of different analytical techniques using GLP guidelines and validation procedures.
- II.6. Principles of microbiological quality assurance and quality control.
- II.7. Principles of identification, purification and synthesis of pharmaceutical products.
- II.8. Principles of standardization of pharmaceutical products.
- II.9. Principles of methods of isolation and purification of active substances from medicinal plants.
- II.10. Fundamentals of drug design, development and synthesis.
- II.11. Principles of development of new pharmaceutical products using genetic engineering.
- II.12. Properties of different pharmaceutical dosage forms.
- II.13. Characteristics of new drug delivery systems.
- II.14. Principles of various instruments and industrial techniques used in manufacturing, packaging and storing of pharmaceutical products.
- II.15. Basis of sampling and labeling of pharmaceutical products.
- II.16. Techniques and instruments used in sterilization and disinfection.
- II.17. Principles of pharmacokinetics and bio-pharmaceutics with application in dose modification.
- II.18. Basics of therapeutic drug monitoring.
- II.19. Principles of bioequivalence studies.
- II.20. Principles of hospital pharmacy as: I.V admixtures, TPN and drug distribution system.
- II.21. Principles of public health issues together with sources, control of microbial contamination, sanitation and disinfection.

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- II.22. Fundamentals of sterilization methods and microbiological QC of pharmaceutical products.
- II.23. Principles of body function and biochemical pathways in health and disease states and their molecular and genetic correlation with different diseases.
- II.24. Etiology, epidemiology, laboratory diagnosis, clinical features of different diseases and their pharmacotherapeutic approaches
- II.25. Mechanisms of actions, therapeutic indications, dosage of different drugs from various origins.
- II.26. Contra-indications, drug interactions, adverse effects and other properties of different drugs from various origins.
- II.27. Principles of clinical pharmacology, pharmacovigilance and the rational use of drugs to optimize drug therapy.
- II.28. Basis of complementary medicine including phytotherapy.
- II.29. Toxic profiles of drugs and other xenobiotic which include environmental pollutants and different measures of poison management.
- II.30. Methods of bio-statistical analysis and pharmaceutical calculations.
- II.31. Principles of management and finance in pharmacy -related business.
- II.32. Basics of drug promotion, sales, marketing and pharmacoeconomics to optimize drug sales.
- II.33. Basis of proper documentation, drug filing systems and process of drug approval.
- II.34. Pharmacy laws, ethics and health care in pharmacy profession following national authority.

III. Professional and Practical Skills:

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

- III.1. Use properly pharmaceutical and medical terms, abbreviations and symbols in pharmacy practice.
- III.2. Handle chemical and pharmaceutical preparations safely and efficiently.
- III.3. Dispose hazardous materials according to safety measures.
- III.4. Compound medicines with appropriate labeling.
- III.5. Dispense medicines effectively and safely.
- III.6. Store and distribute pharmaceutical preparations applying adequate conditions.
- III.7. Extract, isolate active substances from different origins.
- III.8. Purify, identify and/or standardize active ingredients from different sources.
- III.9. Synthesize active molecules for production of novel drugs.
- III.10. Select the appropriate drug for a certain disease based on understanding of its etiology, pathophysiology, patient's laboratory results and medical history.
- III.11. Monitor and control microbial growth.

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- III.12. Use different types of agents that are used as antimicrobials, proper vaccination and passive immunization to inhibit microbial growth.
- III.13. Identify infectious and non-infectious diseases using different laboratory tests.
- III.14. Assess toxicity in various xenobiotic and in forensic samples.
- III.15. Operate pharmaceutical equipment and laboratory instruments using various techniques as well as the student self-designed equipment.
- III.16. Provide public awareness on reasonable use of drugs and social health dangers of drug abuse and misuse.
- III.17. Counsel Patients about the use and misuse of pharmaceutical products.
- III.18. Advise healthcare professionals on the safety and efficacy of medicines.
- III.19. Carry out research studies
- III.20. Apply experimental protocols to analyze the results obtained from research data.
- III.21. Use proper documentation and drug filing systems.

IV. Intellectual Skills:

By successful completion of the program, the graduate should be able to:

- IV.1. Use pharmaceutical knowledge in the formulation of extemporaneous products.
- IV.2. Cope with new drug delivery systems.
- IV.3. Relate to GLP, GPMP, GSP and GCP guidelines in pharmacy practice and industries.
- IV.4. Evaluate the pharmaceutical products through qualitative and quantitative analytical and biological methods.
- IV.5. Estimate the raw materials using qualitative and quantitative analytical methods.
- IV.6. Distinguish and control physical and/or chemical incompatibilities that may occur during drug dispensing.
- IV.7. Find out the appropriate processes for synthesis, identification and purification of active molecules.
- IV.8. Determine the appropriate scheme of isolation, identification, and standardization of active substances from different origins.
- IV.9. Use computer-based system in drug design.
- IV.10. Follow the guidelines to determine the properties of biopharmaceutical products.
- IV.11. Choose and evaluate suitable methods of infection control to prevent infections and promote public health.
- IV.12. Select the proper drugs for various disease conditions based upon pharmacotherapy.
- IV.13. Calculate and adjust the proper dose and recommend appropriate dose regimen of medications.
- IV.14. Identify drug -interactions, monitor and solve drug-therapy problems.
- IV.15. Predict and prevent drug-herb or food-herb interactions.

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- IV.16. Use pharmacoeconomics to promote cost/effective therapy.
- IV.17. Analyze, assess and interpret experimental results, published data and literature-derived from patient case studies.
- IV.18. Explore the information from different aspects required to use in pharmacy practice.
- IV.19. Relate his own designed and dynamically working apparatus to the concept and functionality of the machinery in pharmaceutical industry.

V. General and Transferable Skills:

By successful completion of the program, the graduate should be able to:

- V.1. Communicate effectively with patients and other health professionals.
- V.2. Exchange ideas and information clearly by written means.
- V.3. Collect information and data search from different sources.
- V.4. Assess the collected data to enhance professional competencies.
- V.5. Participate actively in a team.
- V.6. Apply effectively mathematical and statistical methods.
- V.7. Use information technology tools successfully.
- V.8. Implement self-learning to develop profession continuously.
- V.9. Follow ethical and legal guidelines.
- V.10. Apply safety measures in practice.
- V.11. Build up financial, sales and market management abilities.
- V.12. Express creativity and innovation.
- V.13. Manage time effectively.
- V.14. Develop writing and presentation skills.
- V.15. Adopt critical thinking and problem-solving skills.
- V.16. Improve decision-making capabilities.

3. Academic Reference Standards:

National Academic Reference Standards (NARS) set by the National Authority for Quality Assurance and Accreditation of Education in Egypt are adopted and approved by Faculty's Council No. (23) Dated 11/4/2012 as Academic Standards.

Alignment Matrices:

Matrix 1: Program vs. NARS

Matrix 2: . Program ILOs vs. Program aims

Matrix 3: Courses ILOs vs. Program

4. Benchmarks

None.

Matrix 1:
Program vs. NARS

		I. Program Aims towards graduate attributes																		
		I.1	I.2	I.3	I.4	I.5	I.6	I.7	I.8	I.9	I.10	I.11	I.12	I.13	I.14	I.15	I.16	I.17	I.18	
NARS Graduate Attributes																				
1.1	X																			
1.2		X																		
1.3			X																	
1.4				X																
1.5						X														
1.6								X												
1.7									X											
1.8										X										
1.9																	X			
1.10																			X	

NARS	Program ILOs																	
	II. Knowledge and Understanding																	
	II.1	II.2	II.3	II.4	II.5	II.6	II.7	II.8	II.9	II.10	II.11	II.12	II.13	II.14	II.15	II.16		
2.1	X																	
2.2		X	X															
2.3				X														
2.4						X	X	X										
2.5									X									
2.6											X	X						
2.7														X	X	X		
NARS	II.17	II.18	II.19	II.20	II.21	II.22	II.23	II.24	II.25	II.26	II.27	II.28	II.29	II.30	II.31	II.32	II.34	
2.8	X	X	X															
2.9				X														
2.10					X	X												
2.11							X											
2.12								X										
2.13									X	X								
2.14											X							
2.15												X						
2.16													X					
2.17														X				
2.18															X			
2.19																X		
2.20																	X	
2.21																		X

NARS	Programme ILOs																					
	III. Professional and Practical Skills																					
	III.1	III.2	III.3	III.4	III.5	III.6	III.7	III.8	III.9	III.10	III.11	III.12	III.13	III.14	III.15	III.16	III.17	III.18	III.19	III.20	III.21	
3.1	X																					
3.2		X	X																			
3.3				X	X	X																
3.4							X	X	X													
3.5									X													
3.6										X	X	X										
3.7													X									
3.8														X								
3.9															X							
3.10																X	X					
3.11															X				X	X		
3.12																						X

		Program ILOs																			
		IV. Intellectual Skills																			
	NARS	IV.1	IV.2	IV.3	IV.4	IV.5	IV.6	IV.7	IV.8	IV.9	IV.10	IV.11	IV.12	IV.13	IV.14	IV.15	IV.16	IV.17	IV.18	IV.19	
4.1	X	X																			
4.2			X																		X
4.3				X	X																
4.4						X															
4.5								X	X												
4.6										X											
4.7											X										
4.8												X									
4.9													X								
4.10														X							
4.11															X	X					
4.12																X					
4.13																		X			
4.14																					X

NARS	Programme ILOs V. General and Transferable Skills															
	V.1	V.2	V.3	V.4	V.5	V.6	V.7	V.8	V.9	V.10	V.11	V.12	V.13	V.14	V.15	V.16
5.1	X	X														
5.2			X	X												
5.3					X											
5.4						X	X									
5.5								X								
5.6									X	X						
5.7											X					
5.8												X	X			
5.9														X		
5.10															X	X

Matrix 2:
Program ILOs vs. Program aims

Program Aims		Program ILOs																
		II. Knowledge and Understanding																
		II.1	II.2	II.3	II.4	II.5	II.6	II.7	II.8	II.9	II.10	II.11	II.12	II.13	II.14	II.15	II.16	II.17
I.1	√	√	√	√	√	√	√	√	√		√				√			
I.2	√	√		√			√	√			√			√				
I.3	√													√				
I.4	√	√			√		√							√		√		
I.5	√	√		√	√		√				√							
I.6	√										√							
I.7	√																	
I.8	√																	
I.9	√																	
I.10	√																	
I.11	√																	
I.12	√																	
I.13	√																	
I.14																	√	
I.15																	√	
I.16												√						
I.17	√												√					
I.18					√									√				
Program Aims	II.18	II.19	II.20	II.21	II.22	II.23	II.24	II.25	II.26	II.27	II.28	II.29	II.30	II.31	II.32	II.33	II.34	
I.1												√						
I.2		√			√								√					
I.3			√													√		
I.4				√														
I.5					√			√	√	√	√	√					√	
I.6	√					√	√										√	
I.7						√	√										√	
I.8				√		√	√			√	√	√					√	
I.9	√		√	√		√	√		√	√	√	√				√	√	
I.10													√			√	√	
I.11													√			√	√	
I.12														√		√	√	
I.13													√			√	√	
I.14				√						√	√	√	√	√		√	√	
I.15											√	√	√	√		√	√	
I.16							√					√				√	√	
I.17		√										√					√	
I.18												√					√	

Program Aims	Program ILOs																				
	III. Professional and Practical Skills																				
	III.1	III.2	III.3	III.4	III.5	III.6	III.7	III.8	III.9	III.10	III.11	III.12	III.13	III.14	III.15	III.16	III.17	III.18	III.19	III.20	III.21
I.1	✓	✓	✓		✓	✓	✓	✓			✓										
I.2		✓	✓	✓		✓	✓	✓	✓									✓		✓	
I.3	✓	✓		✓	✓																✓
I.4		✓											✓								
I.5		✓					✓			✓											
I.6	✓								✓						✓		✓				
I.7	✓								✓						✓		✓				
I.8	✓									✓		✓						✓			
I.9	✓								✓		✓							✓			
I.10	✓	✓												✓				✓	✓	✓	✓
I.11																		✓	✓	✓	✓
I.12	✓																	✓	✓	✓	✓
I.13															✓						
I.14									✓				✓					✓	✓	✓	✓
I.15									✓			✓						✓	✓	✓	✓
I.16					✓					✓			✓			✓					
I.17								✓										✓	✓	✓	✓
I.18														✓						✓	✓

Program Aims	Program ILOs																		
	IV. Intellectual Skills																		
	IV.1	IV.2	IV.3	IV.4	IV.5	IV.6	IV.7	IV.8	IV.9	IV.10	IV.11	IV.12	IV.13	IV.14	IV.15	IV.16	IV.17	IV.18	IV.19
I.1			√	√	√	√	√	√		√									
I.2	√	√	√	√		√	√								√				
I.3			√			√									√				
I.4			√	√	√		√												
I.5			√	√	√		√												
I.6	√	√								√	√	√	√						
I.7		√										√		√				√	
I.8											√		√						
I.9										√	√	√	√				√		
I.10																√	√		
I.11									√			√			√		√		
I.12															√	√	√		
I.13											√							√	
I.14						√	√	√	√	√	√	√	√	√			√		√
I.15			√			√						√			√				√
I.16			√						√		√						√		√
I.17		√						√									√	√	√
I.18			√															√	√

Program Aims	Program ILOs															
	V. General & Transferable Skills															
	V.1	V.2	V.3	V.4	V.5	V.6	V.7	V.8	V.9	V.10	V.11	V.12	V.13	V.14	V.15	V.16
I.1									√	√						
I.2			√			√	√	√		√		√			√	√
I.3	√	√					√		√			√				
I.4			√	√			√			√						
I.5			√	√		√			√							
I.6	√	√	√	√	√				√					√	√	√
I.7	√	√	√	√	√				√				√	√		√
I.8		√	√	√				√							√	√
I.9	√	√	√	√	√			√	√					√	√	√
I.10		√	√	√		√	√	√	√	√		√	√	√	√	√
I.11			√	√		√	√	√			√			√	√	
I.12	√	√	√	√		√	√			√	√	√	√	√		
I.13	√	√			√								√			
I.14			√	√		√						√		√	√	√
I.15				√							√		√		√	√
I.16									√		√					
I.17			√	√				√				√				√
I.18			√	√		√	√			√					√	√

Matrix 3:
Courses vs. Program

Courses	I. Program Aims																	
	I.1	I.2	I.3	I.4	I.5	I.6	I.7	I.8	I.9	I.10	I.11	I.12	I.13	I.14	I.15	I.16	I.17	I.18
PHT 101			√			√	√		√								√	
PHT 111													√	√			√	
PHT 151											√			√			√	
PHT 212						√												
PHT 213	√	√								√			√	√			√	
PHT 314	√	√	√										√	√			√	
PHT 315											√		√	√				
PHT 421										√			√	√			√	√
PHT 431						√							√	√			√	
PHT 522													√		√			√
PHT 523												√			√			√
PHT 531					√									√			√	√
PHT 624				√	√													√
PHT 616		√			√							√		√			√	
PHG 101					√										√			
PHG 111		√			√										√		√	
PHG 212		√			√										√		√	
PHG 221	√			√	√								√	√	√		√	
PHG 322	√			√	√								√	√	√		√	
PHG 331		√			√								√	√	√		√	
PHG 632		√	√	√	√								√	√	√		√	

Courses	I. Program Aims																		
	I.1	I.2	I.3	I.4	I.5	I.6	I.7	I.8	I.9	I.10	I.11	I.12	I.13	I.14	I.15	I.16	I.17	I.18	
PHL 101							√												
PHL 102								√										√	
PHL 202																			
PHL 311	√					√													
PHL 351	√									√		√						√	
PHL 352	√									√		√						√	
PHL 412	√					√	√		√	√		√		√				√	
PHL 421	√						√												
PHL 453								√		√		√		√				√	
PHL 531	√																		
PHL 541	√								√									√	
PHL 642	√																		
PHL 643						√			√				√			√			
PHL 654							√		√	√		√						√	
PMI 201						√		√		√			√					√	
PMI 311	√								√	√			√					√	
PMI 412	√					√			√	√			√		√			√	
PMI 413						√			√	√			√		√			√	
PMI 514	√				√					√			√	√				√	
PMI 515										√			√	√				√	
PMI 615	√								√	√			√	√				√	
PMI 616													√					√	

Courses	I. Program Aims																		
	I.1	I.2	I.3	I.4	I.5	I.6	I.7	I.8	I.9	I.10	I.11	I.12	I.13	I.14	I.15	I.16	I.17	I.18	
PHC 101	√												√	√	√	√	√	√	
PHC 111	√												√	√	√	√	√	√	
PHC 112	√												√	√	√	√	√	√	
PHC 121	√			√									√	√	√	√	√	√	
PHC 213	√												√	√	√	√	√	√	
PHC 214	√												√	√	√	√	√	√	
PHC 222	√			√									√	√	√	√	√	√	
PHC 223	√			√									√	√	√	√	√	√	
PHC 224	√			√									√	√	√	√	√	√	
PHC 331	√			√	√					√			√	√	√	√	√	√	
PHC 432	√			√	√					√			√	√	√	√	√	√	
PHC 433										√			√	√	√	√	√	√	
PHC 626	√			√									√	√	√	√	√	√	
PHP 301																			
PHP 302	√					√				√				√		√			
PHP 421						√	√		√	√			√	√	√	√	√	√	
PHP 422						√	√		√	√			√	√	√	√	√	√	
PHP 511						√	√		√	√			√	√	√	√	√	√	
PHP 512						√	√		√	√	√		√	√	√	√	√	√	
PHP 522						√	√		√	√			√	√	√	√	√	√	
PHP 513						√	√		√	√			√	√	√	√	√	√	
PHP 614						√	√	√	√	√			√	√	√	√	√	√	
PHP 615						√	√	√	√	√			√	√	√	√	√	√	
PHP 616						√	√	√	√	√	√		√	√	√	√	√	√	

Programme Specifications

Courses	I. Program Aims																		
	I.1	I.2	I.3	I.4	I.5	I.6	I.7	I.8	I.9	I.10	I.11	I.12	I.13	I.14	I.15	I.16	I.17	I.18	
ENG 101													√				√		
ENG 102													√				√		
CSC 101										√		√							
PSC 110																√			
PSY 101												√							
SOC 101																			
SCT 101																		√	
ENV 101																			
MGT 100																		√	
CSC 102												√							
Summer Training		√		√	√	√	√		√			√	√			√	√		√

Courses	II. Knowledge and Understanding																	
	II.1	II.2	II.3	II.4	II.5	II.6	II.7	II.8	II.9	II.10	II.11	II.12	II.13	II.14	II.15	II.16	II.17	
PHT 101	√											√						
PHT 111	√	√																
PHT 151	√																	
PHT 212	√											√						
PHT 213	√	√										√		√				
PHT 314	√											√			√			
PHT 315	√			√								√						
PHT 421	√												√					
PHT 431	√											√						√
PHT 522	√												√					
PHT 523	√	√										√		√				
PHT 531	√				√			√							√			
PHT 624														√				
PHT 616	√	√										√						
Courses	II.18	II.19	II.20	II.21	II.22	II.23	II.24	II.25	II.26	II.27	II.28	II.29	II.30	II.31	II.32	II.33	II.34	
PHT 101													√					√
PHT 111														√				
PHT 151																		
PHT 212																		
PHT 213													√					
PHT 314													√					
PHT 315			√															
PHT 421																		
PHT 431		√																
PHT 522																	√	
PHT 523																	√	
PHT 531																	√	
PHT 624																		√
PHT 616													√					

Courses	II. Knowledge and Understanding																	
	II.1	II.2	II.3	II.4	II.5	II.6	II.7	II.8	II.9	II.10	II.11	II.12	II.13	II.14	II.15	II.16	II.17	
PHG 101	√	√																
PHG 111	√	√																
PHG 212	√	√																
PHG 221	√	√						√	√									
PHG 322	√	√						√	√									
PHG 331	√																	
PHG 632		√						√	√									
Courses	II.18	II.19	II.20	II.21	II.22	II.23	II.24	II.25	II.26	II.27	II.28	II.29	II.30	II.31	II.32	II.33	II.34	
PHG 101											√							
PHG 111											√							
PHG 212											√							
PHG 221											√							
PHG 322											√							
PHG 331											√							
PHG 632																		

Courses	II. Knowledge and Understanding																	
	II.1	II.2	II.3	II.4	II.5	II.6	II.7	II.8	II.9	II.10	II.11	II.12	II.13	II.14	II.15	II.16	II.17	
PHL 101	√																	
PHL 102	√																	
PHL 202	√																	
PHL 311																	√	
PHL 351	√																	
PHL 352	√																	
PHL 412																		
PHL 421	√										√						√	
PHL 453	√																	
PHL 531																		
PHL 541	√																	
PHL 642																		
PHL 643																		
PHL 654	√																	
Courses	II.18	II.19	II.20	II.21	II.22	II.23	II.24	II.25	II.26	II.27	II.28	II.29	II.30	II.31	II.32	II.33	II.34	
PHL 101						√												
PHL 102																		
PHL 202						√												
PHL 311							√											
PHL 351						√												
PHL 352						√												
PHL 412							√											
PHL 421	√					√	√	√		√								
PHL 453						√												
PHL 531												√						
PHL 541												√						
PHL 642												√						
PHL 643								√										
PHL 654						√												

Courses	II. Knowledge and Understanding																		
	II.1	II.2	II.3	II.4	II.5	II.6	II.7	II.8	II.9	II.10	II.11	II.12	II.13	II.14	II.15	II.16	II.17		
PMI 201	√																		
PMI 311	√																		
PMI 412	√																		
PMI 413	√																		
PMI 514	√	√				√	√	√									√		
PMI 515	√		√				√				√								
PMI 615	√																		
PMI 616																			
Courses	II.18	II.19	II.20	II.21	II.22	II.23	II.24	II.25	II.26	II.27	II.28	II.29	II.30	II.31	II.32	II.33	II.34		
PMI 201						√	√												
PMI 311						√													
PMI 412						√	√												
PMI 413			√				√												
PMI 514		√	√					√	√										
PMI 515																			
PMI 615							√												
PMI 616																		√	

Courses	II. Knowledge and Understanding																	
	II.1	II.2	II.3	II.4	II.5	II.6	II.7	II.8	II.9	II.10	II.11	II.12	II.13	II.14	II.15	II.16	II.17	
PHC 101	√																	
PHC 111	√						√											
PHC 112	√						√											
PHC 121	√				√		√											
PHC 213	√						√			√								
PHC 214	√						√											
PHC 222	√				√			√										
PHC 223	√				√			√										
PHC 224	√		√		√			√										
PHC 331	√	√		√	√		√	√		√								
PHC 432	√			√	√		√	√		√								
PHC 433										√								
PHC 626					√			√										
Courses	II.18	II.19	II.20	II.21	II.22	II.23	II.24	II.25	II.26	II.27	II.28	II.29	II.30	II.31	II.32	II.33	II.34	
PHC 101																		
PHC 111																		
PHC 112																		
PHC 121												√						
PHC 213																		
PHC 214																		
PHC 222												√						
PHC 223												√						
PHC 224												√						
PHC 331								√	√			√						√
PHC 432								√	√			√						√
PHC 433								√	√			√						√
PHC 626												√						

Courses	II. Knowledge and Understanding																	
	II.1	II.2	II.3	II.4	II.5	II.6	II.7	II.8	II.9	II.10	II.11	II.12	II.13	II.14	II.15	II.16	II.17	
PHP 301	√																	
PHP 302	√																	
PHP 421	√																	
PHP 422	√																	
PHP 511	√																	√
PHP 512	√																	
PHP 522	√																	
PHP 513	√																	
PHP 614	√																	
PHP 615																		
Courses	II.18	II.19	II.20	II.21	II.22	II.23	II.24	II.25	II.26	II.27	II.28	II.29	II.30	II.31	II.32	II.33	II.34	
PHP 301														√				
PHP 302							√											√
PHP 421			√										√					
PHP 422														√				
PHP 511	√						√	√	√									
PHP 512	√							√	√				√					
PHP 522																		
PHP 513									√									√
PHP 614	√						√	√	√									
PHP 615	√						√	√	√									
PHP 616	√							√										√

Courses	II. Knowledge and Understanding																	
	II.1	II.2	II.3	II.4	II.5	II.6	II.7	II.8	II.9	II.10	II.11	II.12	II.13	II.14	II.15	II.16	II.17	
ENG 101																		
ENG 102																		
CSC 101	√																	
PSC110																		
PSY 101	√																	
SOC 101	√																	
SCT 101																		
ENV 101	√																	
MGT 100	√																	
CSC 102	√																	
Sum. Train.																		
Courses	II.18	II.19	II.20	II.21	II.22	II.23	II.24	II.25	II.26	II.27	II.28	II.29	II.30	II.31	II.32	II.33	II.34	
ENG 101																√		
ENG 102																√		
CSC 101													√					
PSC 110																		√
PSY 101																		
SOC 101																		
SCT 101																	√	
ENV 101																		
MGT 100														√	√			
CSC 102													√					
Summer Training			√															

Courses	III. Professional And Practical Skills																					
	III.1	III.2	III.3	III.4	III.5	III.6	III.7	III.8	III.9	III.10	III.11	III.12	III.13	III.14	III.15	III.16	III.17	III.18	III.19	III.20	III.21	
PHT 101	√															√						
PHT 111																				√		
PHT 151																				√		
PHT 212	√																					
PHT 213	√	√		√	√																	
PHT 314				√	√																	
PHT 315	√	√												√								
PHT 421						√													√			
PHT 431																√						
PHT 522	√					√									√						√	√
PHT 523															√							
PHT 531		√													√						√	√
PHT 624						√																
PHT 616		√		√											√							
PHG 101	√							√											√			
PHG 111	√	√				√		√											√			
PHG 212	√	√					√												√			
PHG 221	√	√	√			√	√	√											√			
PHG 322	√	√	√				√	√											√			
PHG 331	√								√								√		√			
PHG 632	√				√	√	√									√	√		√			

Courses	III. Professional And Practical Skills																					
	III.1	III.2	III.3	III.4	III.5	III.6	III.7	III.8	III.9	III.10	III.11	III.12	III.13	III.14	III.15	III.16	III.17	III.18	III.19	III.20	III.21	
PHL 101	√																					
PHL 102		√																				
PHL 203	√																					
PHL 311			√																			
PHL 351	√	√																√				
PHL 352	√																	√				
PHL 412			√						√									√				
PHL 421	√								√								√					
PHL 453	√																	√				
PHL 531			√																√			
PHL 541		√	√																			
PHL 642														√								
PHL 643														√		√						
PHL 654	√																	√				
PMI 201	√								√						√				√			
PMI 311	√		√										√						√			
PMI 412	√		√										√						√			
PMI 413	√																		√			
PMI 514	√	√	√							√									√			
PMI 515	√																		√			
PMI 615	√		√										√						√			
PMI 616																			√			√

Courses	III. Professional And Practical Skills																					
	III.1	III.2	III.3	III.4	III.5	III.6	III.7	III.8	III.9	III.10	III.11	III.12	III.13	III.14	III.15	III.16	III.17	III.18	III.19	III.20	III.21	
PHC 101	✓																					
PHC 111	✓	✓					✓												✓			
PHC 112	✓	✓	✓				✓	✓							✓				✓			
PHC 121	✓	✓	✓				✓								✓				✓			
PHC 213	✓	✓	✓				✓	✓							✓				✓			
PHC 214	✓	✓	✓				✓								✓				✓			
PHC 222	✓	✓	✓				✓	✓							✓				✓			
PHC 223	✓	✓	✓				✓	✓							✓				✓			
PHC 224	✓	✓	✓				✓	✓							✓				✓			
PHC 331	✓	✓	✓				✓	✓							✓				✓			
PHC 432	✓	✓	✓				✓	✓							✓				✓			
PHC 433									✓										✓			
PHC 626	✓						✓								✓				✓			
PHP 301																						✓
PHP 302	✓																					
PHP 421			✓																			✓
PHP 422																						
PHP 511																				✓		
PHP 512																						
PHP 522																						
PHP 513																						✓
PHP 614																					✓	
PHP 615																					✓	
PHP 616																					✓	

Courses	III. Professional And Practical Skills																					
	III.1	III.2	III.3	III.4	III.5	III.6	III.7	III.8	III.9	III.10	III.11	III.12	III.13	III.14	III.15	III.16	III.17	III.18	III.19	III.20	III.21	
ENG 101	√																√					√
ENG 102	√																√					√
CSC 101																			√			√
PSC 110																√		√				
PSY 101																	√					
SOC 101																	√					
SCT 101																			√			
ENV 101																		√				
MGT 100																						√
Summer training									√						√	√	√	√				√

Courses	IV. Intellectual Skills																			
	IV.1	IV.2	IV.3	IV.4	IV.5	IV.6	IV.7	IV.8	IV.9	IV.10	IV.11	IV.12	IV.13	IV.14	IV.15	IV.16	IV.17	IV.18	IV.19	
PHT 101																		√		
PHT 111	√																			
PHT 151												√					√			
PHT 212						√														
PHT 213	√											√								
PHT 314	√	√																		
PHT 315	√	√			√							√						√		
PHT 421						√														
PHT 431												√					√			
PHT 522			√													√				
PHT 523																				√
PHT 531			√	√	√												√			
PHT 624			√																	
PHT 616	√																	√		
PHG 101																				
PHG 111					√															
PHG 212					√															
PHG 221					√													√		
PHG 322					√															
PHG 331					√														√	
PHG 632					√	√		√												√

Courses	IV. Intellectual Skills																			
	IV.1	IV.2	IV.3	IV.4	IV.5	IV.6	IV.7	IV.8	IV.9	IV.10	IV.11	IV.12	IV.13	IV.14	IV.15	IV.16	IV.17	IV.18	IV.19	
PHL 101																		√		
PHL 102																		√		
PHL 202																		√		
PHL 311							√				√									
PHL 351																		√		
PHL 352																		√		
PHL 412											√		√							
PHL 421											√			√						
PHL 453																		√		
PHL 531																				
PHL 541														√						
PHL 642																	√			
PHL 643														√						
PHL 654												√		√						
PMI 201											√									
PMI 311				√														√		
PMI 412											√						√			
PMI 413											√							√		
PMI 514			√	√							√							√		
PMI 515										√										
PMI 615																		√		
PMI 616																		√		

Courses	IV. Intellectual Skills																			
	IV.1	IV.2	IV.3	IV.4	IV.5	IV.6	IV.7	IV.8	IV.9	IV.10	IV.11	IV.12	IV.13	IV.14	IV.15	IV.16	IV.17	IV.18	IV.19	
PHC 101						√	√	√												
PHC 111						√	√	√												
PHC 112				√		√	√	√		√										
PHC 121				√	√	√	√	√												
PHC 213				√		√	√	√		√										
PHC 214				√	√	√	√	√												
PHC 222				√	√	√	√	√												
PHC 223				√	√	√	√	√									√			
PHC 224				√	√	√	√	√												
PHC 331	√			√	√	√	√	√		√				√						
PHC 432				√	√	√	√	√		√				√						
PHC 433									√					√						
PHC 626				√	√	√	√	√								√				
PHP 301																√				
PHP 302																			√	
PHP 421	√					√							√							
PHP 422																				
PHP 511												√	√	√	√		√			
PHP 512																				
PHP 522													√	√				√		
PHP 513														√	√					
PHP 614												√	√	√	√			√		
PHP 615												√	√	√	√			√		
PHP 616	√					√							√	√			√			

Courses	IV. Intellectual Skills																		
	IV.1	IV.2	IV.3	IV.4	IV.5	IV.6	IV.7	IV.8	IV.9	IV.10	IV.11	IV.12	IV.13	IV.14	IV.15	IV.16	IV.17	IV.18	
ENG101																		✓	
ENG 102																		✓	
CSC 101								✓											
PSC 110																	✓		
PSY 101																✓		✓	
SOC 101												✓							
SCT 101																	✓		
ENV 101											✓								
MGT 100																✓			
CSC 102									✓										
Summer Training				✓															

Courses	V. General And Transferable Skills															
	V.1	V.2	V.3	V.4	V.5	V.6	V.7	V.8	V.9	V.10	V.11	V.12	V.13	V.14	V.15	V.16
PHT 101	✓								✓							
PHT 111		✓			✓								✓	✓		✓
PHT 151															✓	
PHT 212		✓												✓		
PHT 213	✓				✓	✓		✓		✓			✓			✓
PHT 314	✓							✓							✓	
PHT 315		✓			✓	✓		✓						✓		✓
PHT 421		✓	✓										✓	✓		✓
PHT 431							✓								✓	✓
PHT 522					✓				✓	✓		✓	✓		✓	✓
PHT 523					✓				✓			✓	✓	✓		✓
PHT 531					✓	✓			✓	✓		✓		✓	✓	✓
PHT 624		✓		✓	✓		✓		✓	✓		✓	✓		✓	✓
PHT 616	✓				✓									✓		
PHG 101	✓		✓		✓			✓		✓		✓	✓			
PHG 111	✓		✓	✓	✓			✓		✓		✓	✓			
PHG 212	✓		✓	✓	✓			✓		✓		✓	✓	✓		✓
PHG 221	✓		✓	✓	✓			✓		✓		✓	✓	✓		✓
PHG 322	✓		✓	✓	✓			✓		✓		✓	✓	✓		✓
PHG 331	✓		✓	✓	✓			✓		✓		✓	✓	✓		✓
PHG 632	✓		✓	✓	✓			✓		✓		✓	✓		✓	✓

Courses	V. General And Transferable Skills															
	V.1	V.2	V.3	V.4	V.5	V.6	V.7	V.8	V.9	V.10	V.11	V.12	V.13	V.14	V.15	V.16
PHL 101	✓	✓	✓	✓												
PHL 102	✓	✓	✓	✓												
PHL 202	✓	✓														
PHL 311	✓	✓	✓	✓	✓											
PHL 351		✓	✓		✓	✓	✓						✓			✓
PHL 352	✓	✓	✓		✓		✓	✓					✓	✓		✓
PHL 412	✓	✓	✓	✓	✓											
PHL 421	✓	✓	✓	✓	✓		✓						✓	✓		✓
PHL 453	✓	✓	✓	✓	✓		✓						✓	✓		✓
PHL 531						✓										
PHL 541	✓	✓	✓	✓	✓				✓							
PHL 642	✓	✓	✓													
PHL 643	✓	✓	✓													
PHL 654	✓	✓	✓	✓	✓		✓						✓			✓
PMI 201	✓	✓	✓	✓	✓		✓							✓		✓
PMI 311	✓	✓	✓	✓	✓		✓			✓			✓	✓		✓
PMI 412	✓	✓	✓	✓	✓		✓	✓		✓		✓	✓	✓		✓
PMI 413	✓	✓	✓	✓	✓		✓							✓		✓
PMI 514	✓	✓	✓	✓	✓	✓	✓			✓		✓	✓	✓		✓
PMI 515	✓	✓	✓	✓	✓		✓					✓		✓		✓
PMI 615	✓	✓	✓	✓	✓		✓					✓	✓	✓		✓
PMI 616		✓	✓										✓	✓		

Courses	V. General And Transferable Skills															
	V.1	V.2	V.3	V.4	V.5	V.6	V.7	V.8	V.9	V.10	V.11	V.12	V.13	V.14	V.15	V.16
PHC 101	√				√			√		√		√	√	√	√	√
PHC 111					√		√	√		√		√	√	√	√	√
PHC 112			√		√		√	√	√	√		√	√	√	√	√
PHC 121	√	√			√	√		√		√		√	√	√	√	√
PHC 213			√		√		√	√	√	√		√	√	√	√	√
PHC 214					√		√	√		√		√	√	√	√	√
PHC 222	√	√			√	√		√		√		√	√	√	√	√
PHC 223	√	√			√	√		√		√		√	√	√	√	√
PHC 224	√	√			√	√		√		√		√	√	√	√	√
PHC 331	√	√	√		√	√		√	√			√	√	√	√	√
PHC 432	√	√	√		√	√		√	√			√	√	√	√	√
PHC 433		√	√	√	√	√		√	√			√	√	√	√	√
PHC 626	√	√			√	√		√		√		√	√	√	√	√
PHP 301											√					√
PHP 302	√							√	√							
PHP 421	√	√			√	√		√		√				√	√	√
PHP 422	√															√
PHP 511	√	√	√	√	√			√					√	√	√	√
PHP 512						√						√				√
PHP 522													√		√	√
PHP 513			√	√	√		√									√
PHP 614	√	√	√	√	√		√	√					√	√	√	√
PHP 615	√	√	√	√	√		√	√					√	√	√	√
PHP 616	√	√			√	√		√		√				√	√	√

Courses	V. General And Transferable Skills																
	V.1	V.2	V.3	V.4	V.5	V.6	V.7	V.8	V.9	V.10	V.11	V.12	V.13	V.14	V.15	V.16	
ENG 101	√	√	√											√			
ENG 102	√	√	√											√			
CSC 101			√	√		√	√							√			
PSC 110									√								
PSY 101	√	√	√	√	√												
SOC 101									√								
SCT 101																√	√
ENV 101	√	√	√	√	√												
MGT 100					√											√	
CSC 102			√	√		√	√							√			
Summer Training	√						√	√	√								√

5. Curriculum Structure and Contents

4.a. Program duration: Five years (10 Semesters)

4.b. Program structure

4.b.i Total No. of hours per program:

Theoretical	141	Practical	41	Total	182
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4.b.ii No. of credit hours:

Compulsory	164	Elective	6	Univ. Req.	12
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4.b.iii No. of credit hours of basic sciences courses:

No.	29.5	%	16.75
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4.b.iv No. of credit hours of courses of social sciences and humanities:

No.	6	%	3.29
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4.b.v No. of credit hours of specialty courses:

No.	136.5	%	75
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4.b.vi No. of credit hours of other courses:

No.	10	%	5.49
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4.b.vii Practical/ Field Training: 300 hours

4.b.viii Program Levels (in credit-hours system): 5 levels

6. Program Courses
6.1. Level/ Year of Program: First (Freshman) Semester: First
a. Compulsory

Code	Course Title	No. of Units	No. of hours/ week		Pre-requisite(s)
			Lect.	Lab.	
PHC 101	General and Physical Chemistry	4	3	1	-
PHC 111	Pharmaceutical Organic Chemistry (1)	4	3	1	-
PHG 101	General Botany and Medicinal Plants	3	2	1	-
PHT 101	Orientation to Pharmacy	2	2	0	-
PHT 151	Mathematics	2	2	0	-
ENG 101	English language (1)	2	2	0	-
CSC 101	Introduction to Computer	2	1	1	-

b. Elective – number required: None

6.2. Level/ Year of Program: First (Freshman) Semester: Second
a. Compulsory

Code	Course Title	No. of Units	No. of hours/ week		Pre-requisite(s)
			Lect.	Lab.	
PHC 112	Pharmaceutical Organic Chemistry (2)	4	3	1	PHC 111
PHC 121	Pharmaceutical Analytical Chemistry (1)	3	2	1	--
PHG 111	Pharmacognosy (1)	4	3	1	PHG 101
PHL 101	Anatomy and Histology	3	2	1	--
PHL 102	Medical Terminology	1	1	0	--
PHT 111	Physical Pharmacy	3	2	1	PHC 101
ENG 102	English Language (2)	2	2	0	ENG 101

b. **Elective – number required:** None

c. **Optional – number required:** None

6.3. Level/ Year of Program: Second (Sophomore) Semester: Third
a. Compulsory

Code	Course Title	No. of Units	No. of hours/ week		Pre-requisite(s)
			Lect.	Lab.	
PHC 213	Pharmaceutical Organic Chemistry (3)	4	3	1	PHC 112
PHC 222	Pharmaceutical Analytical Chemistry (2)	4	3	1	-----
PHG 212	Pharmacognosy (2)	4	3	1	PHG 101
PHT 212	Introduction to Pharmaceutics	1	1	0	
PMI 201	Pathology and Parasitology	3	2	1	
PHL 202	Physiology	2	2	0	

b. Elective – number required: None

c. Optional – number required: None

6.4. Level/ Year of Program: Second (Sophomore) Semester: Fourth
a. Compulsory

Code	Course Title	No. of Units	No. of hours/ week		Pre-requisite(s)
			Lect.	Lab.	
PHG 221	Phytochemistry (1)	4	3	1	PHG 212 PHC 213
PHC 214	Spectrometric Identification of Pharmaceutical Compounds	2	2	0	PHC 213
PHC 223	Applied Analytical Chemistry	2	1	1	PHC 121
PHC 224	Instrumental Analysis	4	3	1	--
PHT 213	Pharmaceutics (1)	4	3	1	PHT 212
PSC 110	Human Rights	2	2	0	--

b. Elective – number required: None

c. Optional – number required: None

6.5. Level/ Year of Program: Third (Junior) Semester: Fifth
a. Compulsory

Code	Course Title	No. of Units	No. of hours/ week		Pre-requisite(s)
			Lect.	Lab.	
PHG 322	Phytochemistry (2)	4	3	1	<u>PHG 212</u> <u>PHC 213</u>
PHL 351	Biochemistry (1)	4	3	1	PHL 203 PHC 112
PHT 314	Pharmaceutics (2)	4	3	1	PHT 212
PMI 311	Basic Microbiology and Immunology	3	2	1	PHL 203
PHP 301	Pharmacy Management	1	1	0	--
-----	Elective University course (1)	2	2	0	--

b. Elective – number required: One [Elective University Course (1)]

Code	Course Title	No. of Units	No. of hours/ week	
			Lect.	Lab.
PSY 101	Psychology	2	2	0
SOC 101	Sociology	2	2	0
SCT 101	Scientific Thinking	2	2	0
ENV 101	Environmental Science	2	2	0
MGT 100	Small Projects Management	2	2	0
CSC 102	Computer Applications	2	1	1

c. Optional – number required: None

6.6. Level/ Year of Program: Third (Junior) Semester: Sixth
a. Compulsory

Code	Course Title	No. of Units	No. of hours/ week		Pre-requisite(s)
			Lect.	Lab.	
PHG 331	Herbal Medicine	2	2	0	PHG 322
PHL 311	Pharmacology (1)	3	2	1	PHL101 PHL 203
PHL 352	Biochemistry (2)	4	3	1	PHL 351
PHT 315	Pharmaceutics (3)	3	2	1	PHT 213
PHP 302	Pharmacy Legislation and Community Pharmacy	2	2	0	PHL 102
PHC 331	Pharmaceutical Chemistry (1)	4	3	1	<u>PHC 213</u>

b. Elective – number required: None

c. Optional – number required: None.

**6.7. Level/ Year of Program: Fourth (Senior 1 Year) Semester:
 Seventh**
a. Compulsory

Code	Course Title	No. of Units	No. of hours/ week		Pre-requisite(s)
			Lect.	Lab.	
PMI 413	Public and Environmental Health	2	2	--	<u>PMI 311</u>
PHL 412	Pharmacology (2)	3	2	1	PHL 311
PHP 421	Hospital Pharmacy (1)	3	2	1	<u>PHT 212</u>
PHT 421	Reaction Kinetics and Drug Stability	3	2	1	PHT 111 PHT 151
PHC 432	Pharmaceutical Chemistry (2)	4	3	1	<u>PHC 213</u>
-----	Elective Faculty Course (1)	2			

b. Elective – number required: One [Elective Faculty Course (1)]

Code	Course Title	No. of Units	No. of hours/ week		Pre-requisite(s)
			Lect.	Lab.	
PHG 632	Herbal Medicine Production	2	2	0	PHG 111 , PHG 212
PHT 616	Dermatologicals and Cosmetics	2	1	1	PHT 314
PHT 624	Applied Industrial Pharmacy	2	2	0	PHT 523
PHL 642	Clinical Toxicology	2	2	0	PHL 541
PHL 643	Drug Abuse	2	2	0	PHL 541
PHL 654	Clinical Nutrition	2	2	0	PHL 453
PHC 626	Analysis of Food and Cosmetics	2	1	1	PHC 224
PMI 615	Diagnostic Microbiology	2	2	0	PMI 311
PMI 616	Reports Paper Writing	2	2	0	
PHP 614	Clinical Pharmacy (2)	2	1	1	PHL 421
PHP 615	Clinical Pharmacy (3)	2	1	1	PHP 614
PHP 616	Hospital Pharmacy (2)	2	2	0	PHP 421

c. Optional – number required: None

6.8. Level/ Year of Program: Fourth (Senior 1) Semester: Eighth
a. Compulsory

Code	Course Title	No. of Units	No. of hours/ week		Pre-requisite(s)
			Lect.	Lab.	
PHL 421	Clinical Pharmacology	3	2	1	<u>PHL 412</u>
PMI 412	Medical Microbiology	3	2	1	<u>PMI 311</u>
PHL 453	Clinical Biochemistry	3	2	1	PHL 352
PHP 422	Promotion and Drug Marketing	2	2	0	PHP 302
PHT 431	Biopharmaceutics and Pharmacokinetics	4	3	1	PHT 421
PHC 433	Drug Design	2	2	0	<u>PHC 331</u>
-----	Elective University Course (2)	2	2	0	

b. Elective – number required: One [Elective University Course (2)]

Code No.	Course Title	No. of Units	No. of hours/ week	
			Lect.	Lab.
PSY 101	Psychology	2	2	0
SOC 101	Sociology	2	2	0
SCT 101	Scientific Thinking	2	2	0
ENV 101	Environmental Science	2	2	0
MGT 100	Small Projects Management	2	2	0
CSC 102	Computer Applications	2	1	1

c. Optional – number required: None

6.9. Level/ Year of Program: Fifth (Senior 2 Year) Semester: Ninth
a. Compulsory

Code	Course Title	No. of Units	No. of hours/ week		Pre-requisite(s)
			Lect.	Lab.	
PMI 515	Biotechnology	2	2	--	PHL 352
PHT 522	Industrial Pharmacy (1)	3	2	1	PHT 314
PHP 511	Clinical Pharmacy (1)	3	2	1	PHL 421
PHP 512	Clinical Pharmacokinetics	3	2	1	PHT 431
PHP 522	First Aid	1	1	0	PHL 101
PHL 541	Toxicology & Forensic Chemistry	4	3	1	PHL 311
-----	Elective Faculty Course	2			

Programme Specifications
b. Elective – number required: One [Elective Faculty Course (2)]

Code	Course Title	No. of Units	No. of hours/ week		Pre-requisite(s)
			Lect.	Lab.	
PHG 632	Herbal Medicine Production	2	2	0	PHG 111 , PHG 212
PHT 616	Dermatologicals and Cosmetics	2	1	1	PHT 314
PHT 624	Applied Industrial Pharmacy	2	2	0	PHT 523
PHL 642	Clinical Toxicology	2	2	0	PHL 541
PHL 643	Drug Abuse	2	2	0	PHL 541
PHL 654	Clinical Nutrition	2	2	0	PHL 453
PHC 626	Analysis of Food and Cosmetics	2	1	1	PHC 224
PMI 615	Diagnostic Microbiology	2	2	0	PMI 311
PMI 616	Reports Paper Writing	2	2	0	-
PHP 614	Clinical Pharmacy (2)	2	1	1	PHL 421
PHP 615	Clinical Pharmacy (3)	2	1	1	PHP 614
PHP 616	Hospital Pharmacy (2)	2	2	0	PHP 421

c. Optional – number required: None

6.10. Level/ Year of Program: Fifth (senior 2) Semester: Tenth
a. Compulsory

Code	Course Title	No. of Units	No. of hours/ week		Pre-requisite(s)
			Lect.	Lab.	
PHL 531	Biostatistics	3	2	1	PHL 412
PHT 523	Pharmaceutical Industries (2)	3	2	1	<u>PHT 314</u>
PHP 513	Drug Interaction and Drug Information	2	2	0	PHL 421
PHT 531	Quality Control and Quality Assurance	3	2	1	PHC 224 PHT 421
PMI 514	Pharmaceutical Microbiology	4	3	1	PMI 311
-----	Elective Faculty Course (3)	2			

b. Elective – number required: One [Elective Faculty Course (3)]

Code	Course Title	No. of Units	No. of hours/ week		Pre-requisite(s)
			Lect.	Lab.	
PHG 632	Herbal Medicine Production	2	2	0	PHG 111 , PHG 212
PHT 616	Dermatologicals and Cosmetics	2	1	1	PHT 314
PHT 624	Applied Industrial Pharmacy	2	2	0	PHT 523
PHL 642	Clinical Toxicology	2	2	0	PHL 541
PHL 643	Drug Abuse	2	2	0	PHL 541
PHL 654	Clinical Nutrition	2	2	0	PHL 453
PHC 626	Analysis of Food and Cosmetics	2	1	1	PHC 224
PMI 615	Diagnostic Microbiology	2	2	0	PMI 311
PMI 616	Reports Paper Writing	2	2	0	-
PHP 614	Clinical Pharmacy (2)	2	1	1	PHL 421
PHP 615	Clinical Pharmacy (3)	2	1	1	PHP 614
PHP 616	Hospital Pharmacy (2)	2	2	0	PHP 421

c. Optional – number required: None

7. Program Admission Requirements:

- The Faculty of Pharmaceutical Sciences and Pharmaceutical Industries at FUE follows the regulations and score set by the Supreme Council of higher education in Egypt.
- FUE accepts students holding the Egyptian General Secondary Certificate of Education (Thanawya Amma) or its equivalent, as per the rules and regulations set by the Supreme Council of the Egyptian Universities; Thanawya Amma from other Arab countries, the American High School Diploma, the British Secondary School Certificates (GCSE, IGCSE), the German Secondary School Certificate (Abitur), the French Secondary School Certificate (Baccalaureat de L'Enseignement Secondaire), and the International Baccalaureate.
- According to the regulations of the Egyptian Ministry of Higher Education, all students who have an Egyptian nationality holding foreign high school certificates and who did not take Thanawya Amma Arabic Language and religion exams during their high school MUST sit for and obtain a passing grade in the Thanawya Amma Arabic Language and religion exams prior to graduation from the University.
- All new students applying for admission at FUE must take the English Placement Test (EPT) and achieve the required English proficiency level before they can enroll in English language credit courses. Students will be placed according to their scores in an English language course. Students holding a valid International TOEFL certificate with an equivalent score of 550 and above are exempt from the placement test. Students who fail the English Placement Test (EPT) are required to complete and pass a remedial course (ENG 90 – Basic English) over a period of one semester.
- According to the university regulations, applicants should pass a medical examination prior to their acceptance.
- Students, who had their General Secondary certificate or its equivalent two years before the date of submission, can apply to the university on condition that they were not registered in other Universities the year they had their certificate and according to the previously mentioned regulations.

Requirements for Transfer-Students:

- **Transfer from other Universities**
 - The transfer student must fulfill FUE admission requirements including the attainment of high school certificate with a score complying with the Supreme Council of Egyptian Private Universities regulations for the year during which the certificate was obtained.
 - Applicants should pass the tests specified by the University.

Programme Specifications

- Transfer students should study in the faculty for at least four semesters with a minimum of 50 credit hours.
 - The student must submit official transcripts of the courses taken with detailed course descriptions stamped from an accredited university, including the credit hours and grades achieved.
 - Upon final acceptance at FUE, the student will be requested to submit a withdrawal letter from the previous university.
 - Courses that accepted to be transferred must be substantially the same in both content and quality to that of FUE courses.
- **Transfer from FUE Faculties:**
Transfer from an FUE faculty to another is only available within two weeks from the beginning of the semester during the Add/Drop period. Students who wish to transfer from one faculty to another must obtain the approval of both the Dean and the academic advisor. Students score should be compatible with the score required by the faculty they want to join.

8. Regulations for Progression and Program Completion

- **First Year**

Students are required to complete 39 credit hrs

- **Second Year**

Students are required to complete 75 credit hrs

- **Third Year/**

Students are required to complete 111 credit hrs

- **Fourth Year**

Students are required to complete 147 credit hrs

- **Fifth Year**

Students are required to complete 182 credit hrs.

Requirements for Graduation

To graduate, a student must pass all required courses and achieve a minimum cumulative GPA of 2.00. Students are required to complete 300 hours of Practical/Field Training.

Calculation of CGPA:

$$\text{CGPA} = \frac{\sum_{\text{for all studied courses}} (\text{Grade of a course} \times \text{Credit hours of the course})}{\sum_{\text{for all studied courses}} (\text{Credit hours})}$$

The Equivalent Grade to each CGPA

CGPA	Grade	Percentage	Equivalent Grade
4.0	A	90 to 100	Excellent
3.7	A ⁻	85 to <90	
3.3	B ⁺	80 to <85	Very Good
3.0	B	75 to <80	
2.7	B ⁻	72 to <75	Good
2.3	C ⁺	70 to <72	
2.0	C	67 to <70	

Summer Training

Students are required to complete 300 hours of Practical/Field Training for graduation. Students can start training after the third level and finish them before graduation. Students should follow the summer training description and the method of assessment as described and announced.

Honors

Students with a cumulative average of 3.7 or above at graduation are granted a B.Sc. with 1st class honors. Students with a cumulative average between 3.0 and 3.7 at graduation are granted a B.Sc. with 2nd class honors. To be granted with class honors, students must not fail in any of the provided courses.

9. Assessment Methods for Students:

Method of Assessment	Assessed ILOs
Written exams	Knowledge and Understanding Intellectual Skills.
Practical exams	Intellectual Skills. Professional and Practical Skills. General and Transferrable Skills.
Oral exams	Knowledge and Understanding. Intellectual Skills. General and Transferrable Skills. Professional and Practical Skills
Assignments	Knowledge and Understanding. Intellectual Skills. Professional and Practical Skills General and Transferrable Skills.
Presentations	Knowledge and Understanding. Intellectual Skills General and Transferrable Skills.
Projects	Knowledge and Understanding. Intellectual Skills. Practical and Professional Skills. General and Transferrable Skills.

10. Program Assessment Methods:

Evaluator	Tool	Sample
1. Senior students (students at levels 4 and 5)	- Meetings - Questionnaire	at least 50%
2. Alumni	- Questionnaire	25%
3. Stakeholders	- Discussions. - Questionnaires. - Meetings	Representative sample
4. Internal evaluator	Report	one
5. External Examiner (s)	Report	one-two
6. External Evaluator (s)	Report	one
7. Other Audits	Report	one-two

(N.B.: Courses' Specifications are attached)

Signature of Program Coordinator:	
Signature of Chairman of Faculty Council (Dean)	
Faculty Council Approval Date	20/10/2014