# Faculty of Pharmaceutical Sciences and Pharmaceutical Industries

## Program Specifications (New Curriculum -Academic Year 2017/2018)

### A. Basic Information

**1- Program Title:**               Bachelor degree of Pharmacy

**2- Program Type:**               Single

**3- Departments Delivering the Program**

**a-Faculty Departments**
- Department of Pharmaceutical Chemistry
- Department of Pharmaceutics and Pharmaceutical Technology
- Department of Pharmacology & Toxicology and Biochemistry
- Department of Pharmacognosy and Medicinal Plants
- Department of Microbiology and Immunology
- 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 Education and Students Affairs

**Internal Evaluator:**          Prof. Dr. Seham Elkheshen

**External Evaluator (s):**      -------------------------------------

**Last date of program specifications approval:**          October 2017

## 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 attributes

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

I.1.     Handle chemicals, poison, pharmaceutical products including narcotics and 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.

1.6.     Build up pharmacological and toxicological drug profile for the rational use of medications.

I.7.     Provide information to the community, patients and health professionals about the use of   medications and medical devices.

I.8.     Relate principles of pathophysiology of plenty of diseases to the pharmacotherapeutic approaches.

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 information technology skills.

I.12.    Develop presentation, promotion, marketing and business administration skills.

I.13.    Communicate effectively with others and work in a team.

I.14.    Apply 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 developed industrial Pharmacy skills.

I.19.    Employ enhanced professional pharmacy practice 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 sciences including physical, organic chemistry, analytical chemistry, mathematics, computer, pharmaceutical, medical, social, behavioral, health and environmental as well as pharmacy management and pharmacy practice.

II.2.   Types and properties of active and inactive ingredients from various sources used in preparation of medicines.

II.3.   Properties of products, instruments and methods used in biotechnology as well as molecular biology.

II.4.   Properties of radio-labeled products used in preparation of medicine and their applications.

II.5.   Principles of different analytical techniques using GLP guidelines and validation procedures.

II.6.   Principles of identification, purification and synthesis of pharmaceutical products.

II.7.   Principles of standardization of pharmaceutical products.

II.8.   Principles of methods of isolation and purification of active substances from medicinal plants.

II.9.   Fundamentals of drug design, development and synthesis.

II.10.  Principles of development of new pharmaceutical products using genetic engineering.

II.11.  Properties of different pharmaceutical dosage forms and the novel drug delivery systems.

II.12.  Principles of various instruments and industrial techniques used in manufacturing, packaging and storing of pharmaceutical products.

II.13.  Basis of sampling, labeling and distribution in pharmaceutical industry.

II.14.  Principles of pharmacokinetics and bio-pharmaceutics with application in dose modification.

II.15.  Principles of bioequivalence studies.

II.16.  Role of community, clinical and hospital pharmacists as: I.V admixtures, TPN and drug distribution system.

II.17.  Principles of public health issues together with sources, control of microbial contamination, sanitation and disinfection.

II.18.  Fundamentals of methods of sterilization and microbiological QC of pharmaceutical products.

II.19. Principles of body function and biochemical pathways in health and disease states and their molecular and genetic correlation with different diseases.

II.20. Pathophysiology, etiology, epidemiology, laboratory diagnosis, clinical features of different diseases, their pharmacotherapeutic approaches and therapeutic drug monitoring

II.21. Principles of pharmacology, mechanisms of actions, therapeutic indications, dosage of drugs, contra-indications, drug interactions, adverse effects and rational use of different drugs from various origins and basis of clinical pharmacology.

II.22. Toxic profiles of drugs and other xenobiotics from various sources, identification, symptoms and management.

II.23. Basis of complementary and alternative medicine.

II.24. Principles of documentation, drug filing systems and process of drug approval, pharmacoepidemiology and pharmacovigilance.

II.25. Methods of bio-statistical analysis and pharmaceutical calculations.

II.26. Principles of management and finance in pharmacy -related business.

II.27. Basics of drug promotion, sales, marketing and pharmacoeconomics to optimize drug sales.

II.28. Pharmacy laws and ethics of health care in pharmacy profession following national authority.


## IV. Intellectual Skills:

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

III.1.   Use pharmaceutical knowledge in the formulation of extemporaneous products.

III.2.   Cope with new drug delivery systems.

III.3.   Relate to GLP, GPMP, GSP and GCP guidelines in pharmacy practice and industries.

III.4.   Evaluate the pharmaceutical products through qualitative and quantitative analytical and biological methods.

III.5.   Estimate the raw materials using qualitative and quantitative analytical methods.

III.6.   Distinguish and control physical and/or chemical incompatibilities that may occur during drug dispensing.

III.7.   Find out the appropriate processes for synthesis, identification and purification of active molecules.

III.8.   Determine the appropriate scheme of isolation, identification, and standardization of active substances from different origins.

III.9.   Use computer-based system and bioinformatics in drug design.

III.10.  Follow the guidelines to determine the properties of biopharmaceutical products.

III.11.  Choose and evaluate suitable methods of infection control to prevent   infections and promote public health.

III.12. Select the proper drugs for various disease conditions based upon mode of action and pharmacotherapy.

III.13. Calculate and adjust the proper dose and recommend appropriate dose regimen of medications.

III.14. Identify drug -interactions, monitor and solve drug-therapy problems.

III.15. Predict and prevent drug-herb or food-herb interactions.

III.16. Use pharmacoeconomics to promote cost/effective therapy.

III.17. Analyze, assess and interpret experimental results, published data and literature-derived from patient case studies.

III.18. Explore the information from different aspects required to use in pharmacy practice.

III.19. Relate the self-designed apparatus to the concept and functionality of the machinery in pharmaceutical industry.

III.20. Evaluate literature using evidence based data.

III.21. Relate various approaches of molecular biology to diagnosis& prognosis of diseases and development of biopharmaceutical products.

## IV. Professional and Practical Skills:

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

IV.1. Use properly pharmaceutical and medical terms, abbreviations and symbols in pharmacy practice.

IV.2. Handle chemical and pharmaceutical preparations safely and efficiently.

IV.3. Dispose hazardous materials according to safety measures.

IV.4. Compound medicines with appropriate labeling.

IV.5. Dispense medicines effectively and safely.

IV.6. Store and distribute pharmaceutical preparations applying adequate conditions.

IV.7. Extract, isolate active substances from different origins.

IV.8. Purify, identify and/or standardize active ingredients from different sources.

IV.9. Synthesize active molecules for production of novel drugs.

IV.10. Select the appropriate drug for a certain disease based on understanding of its etiology, pathophysiology, patient's laboratory results and medical history.

IV.11. Monitor and control microbial growth.

IV.12. Use different types of agents that are used as antimicrobials, proper vaccination and passive immunization to inhibit microbial growth.

IV.13. Identify infectious and non-infectious diseases using different laboratory tests.

IV.14. Assess toxicity of various xenobiotics and detect poisons in biological samples.

IV.15. Operate pharmaceutical equipment and laboratory instruments using various techniques in addition to the self-designed apparatus.

IV.16. Provide public awareness on reasonable use of drugs and social health dangers of drug abuse and misuse.

IV.17. Counsel Patients about the use and misuse of pharmaceutical products.

IV.18. Advise healthcare professionals on the safety and efficacy of medicines and report new adverse drug reactions.

IV.19. Carry out research studies

IV.20. Analyze the results obtained from research data.

IV.21. Use proper documentation and drug filing systems.

## 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.

V9.     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 readopted for the new curriculum and approved by Faculty's Council No.(42) on August 2014.and the following Alignment Matrices were constructed:
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 attribute

| NARS 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 | I.19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.1 | X | | | | | | | | | | | | | | | | | | |
| 1.2 | | X | X | | | | | | | | | | | | | | | | |
| 1.3 | | | | X | X | | | | | | | | | | | | | | |
| 1.4 | | | | | | X | X | | | | | | | | | | | | X |
| 1.5 | | | | | | | | X | X | | | | | | | | | | X |
| 1.6 | | | | | | | | | | X | | | | | | | | X | |
| 1.7 | | | | | | | | | | | X | X | | | | | | | |
| 1.8 | | | | | | | | | | | | | X | X | X | | | X | X |
| 1.9 | | | | | | | | | | | | | | | | X | | | |
| 1.10 | | | | | | | | | | | | | | | | | X | | X |

**Programme ILOs**

**II. Knowledge and Understanding**

| NARS | 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 |
|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 2.1 | X | | | | | | | | | | | | | |
| 2.2 | | X | X | X | | | | | | X | | | | |
| 2.3 | | | | | X | | | | | | | | | |
| 2.4 | | | | | | X | X | X | | | | | | |
| 2.5 | | | | | | X | | | X | | | | | |
| 2.6 | | | | | | | | | | | X | | | |
| 2.7 | | | | | | | | | | | | X | X | |
| 2.8 | | | | | | | | | | | | | | X |

| NARS | II.15 | II.16 | II.17 | II.18 | II.19 | II.20 | II.21 | II.22 | II.23 | II.24 | II.25 | II.26 | II.27 | II.28 |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2.8 | X | | | | | X | | | | | | | | |
| 2.9 | | X | | | | | | | | | | | | |
| 2.10 | | | X | X | | | | | | | | | | |
| 2.11 | | | | | X | | | | | | | | | |
| 2.12 | | | | | | | | | | | | | | |
| 2.13 | | | | | | | X | | | | | | | |
| 2.14 | | | | | | | | | | | | | | |
| 2.15 | | | | | | | | | X | | | | | |
| 2.16 | | | | | | | | X | | | | | | |
| 2.17 | | | | | | | | | | | X | | | |
| 2.18 | | | | | | | | | | | | X | | |
| 2.19 | | | | | | | | | | | | | X | |
| 2.20 | | | | | | | | | | X | | | | |
| 2.21 | | | | | | | | | | | | | | X |

**Programme ILOs**
**III. Intellectual Skills**

| NARS | 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 |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 4.1  | X | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 4.2  |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |
| 4.3  |   |   |   | X | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 4.4  |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 4.5  |   |   |   |   |   |   | X | X |   |   |   |   |   |   |   |   |   |   |   |   |   |
| 4.6  |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   | X |
| 4.7  |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |
| 4.8  |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |
| 4.9  |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |   |
| 4.10 |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |   |
| 4.11 |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   |   |   |   |   |   |
| 4.12 |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X | X |   |   |   |   |   |
| 4.13 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   |   | X |   |
| 4.14 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | X |   | X |   |

**Programme ILOs**
**IV. Professional and Practical 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 | IV.20 | IV.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 |

**Programme ILOs**
**V. General and Transferable Skills**

| NARS | 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 ILOs**

**II. Knowledge and Understanding**

| Program Aims towards graduate attributes | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| I.19 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| Program Aims towards graduate attributes | II.15 | II.16 | II.17 | II.18 | II.19 | II.20 | II.21 | II.22 | II.23 | II.24 | II.25 | II.26 | II.27 | II.28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |  | ✓ |  |  |  | ✓ | ✓ | ✓ |  | ✓ |  |  |  | ✓ |
| I.19 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

| Program Aims towards graduate attributes | Program ILOs | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | III. Intellectual 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 | | | ✓ | | | | | | | | | | | | | | | ✓ | ✓ | ✓ | |
| I.19 | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | |

**Program ILOs**

**IV. Professional and Practical Skills**

| Program Aims towards graduate attributes | 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 | IV.20 | IV.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 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| I.19 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |

| Program Aims towards graduate attributes | 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 | | | ✓ | | | | ✓ | | | ✓ | | ✓ | | | ✓ | ✓ |
| I.19 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

# Matrix 3:

# Courses ILOs vs. Program

**I. Program Aims towards graduate attributes**

| Courses | 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 | I.19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHC 111 | ✓ |  |  | ✓ |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ | ✓ |  |  |
| PHC 122 |  |  |  |  | ✓ |  |  |  |  |  | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  |
| PHC 213 |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  |
| PHC 114 | ✓ |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  |
| PHC 125 | ✓ |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  |
| PHC 216 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  |
| PHC 317 |  |  |  | ✓ | ✓ |  |  |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  |
| PHC 328 |  |  |  | ✓ |  |  |  |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  |
| PHC 429 |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  |
| PHC 601 |  |  |  | ✓ | ✓ |  |  |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  |
| PHC 602 | ✓ |  |  |  |  |  |  |  |  | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  |
| PHT 110 |  |  |  |  |  |  | ✓ |  |  |  | ✓ | ✓ |  | ✓ |  | ✓ |  |  |  |
| PHT 111 |  |  | ✓ |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |
| PHT 212 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |  | ✓ |
| PHT 223 | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |  | ✓ |
| PHT 314 | ✓ | ✓ | ✓ |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  | ✓ |  |  |
| PHT 325 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  | ✓ |  | ✓ |
| PHT 416 |  |  |  | ✓ |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |
| PHT 517 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  | ✓ |  |
| PHT 518 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |
| PHT 529 |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |
| PHT 603 |  | ✓ |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  | ✓ |  | ✓ |
| PHT 604 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  | ✓ |

**I. Program Aims towards graduate attributes**

| Courses | 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 | I.19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHL 111 |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |
| PHL 122 |  |  |  |  |  |  | ✓ | ✓ | ✓ |  |  |  | ✓ |  |  |  |  |  |  |
| PHL 123 |  |  |  |  |  | ✓ | ✓ | ✓ |  | ✓ |  |  |  |  |  |  |  |  |  |
| PHL 214 |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |
| PHL 315 | ✓ |  |  |  |  | ✓ |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |
| PHL 326 | ✓ |  |  |  |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ | ✓ |  |  |  |  |  |
| PHL 417 |  |  |  |  |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ | ✓ | ✓ |  |  |  |  |
| PHL 518 | ✓ |  |  |  |  |  | ✓ |  | ✓ | ✓ |  |  | ✓ | ✓ | ✓ |  |  |  |  |
| PHL 605 | ✓ |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  | ✓ | ✓ | ✓ | ✓ |  |  |
| PHL 606 | ✓ |  |  |  |  | ✓ | ✓ |  | ✓ |  |  |  | ✓ | ✓ |  | ✓ |  |  |  |
| PHL 607 |  |  |  |  |  | ✓ | ✓ |  | ✓ | ✓ |  |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  |
| PBC 211 | ✓ |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ |  | ✓ | ✓ | ✓ |  |  |
| PBC 222 | ✓ |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  |
| PBC 323 |  |  |  |  |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  | ✓ |  | ✓ | ✓ | ✓ |  |  |
| PBC 414 |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  | ✓ |  |  |  |  |
| PBC 608 |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ | ✓ |  |  |

## I. Program Aims towards graduate attributes

| Courses | 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 | I.19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHG 111 | | ✓ | | ✓ | | | | | ✓ | | | | ✓ | | | ✓ | ✓ | | |
| PHG 122 | | ✓ | | ✓ | | | | | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | | |
| PHG 223 | | ✓ | | ✓ | | | | | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | | |
| PHG 314 | ✓ | ✓ | | ✓ | ✓ | | | | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | | |
| PHG 425 | | ✓ | | ✓ | | | | | | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| PHG 526 | | | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| PHG 609 | | ✓ | | | | | ✓ | | ✓ | ✓ | | | ✓ | | ✓ | ✓ | ✓ | | |
| PHG 610 | ✓ | | | | | ✓ | | | | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| PMI 211 | | | | | | | | | ✓ | | | | ✓ | | | | | | |
| PMI 312 | ✓ | | | | | | | | | | | | | ✓ | | | | | |
| PMI 413 | | | | | | | | | ✓ | | | | ✓ | ✓ | | | ✓ | | |
| PMI 424 | ✓ | | | | | | ✓ | | ✓ | | | | | ✓ | | | ✓ | | |
| PMI 525 | | | | | | | | | | ✓ | | | ✓ | ✓ | | | ✓ | ✓ | |
| PMI 611 | | | | | | | | | ✓ | ✓ | | | ✓ | | | | ✓ | | |
| PMI 612 | | | | | | | | | | ✓ | | | ✓ | | | | | | |

**I. Program Aims towards graduate attributes**

| Courses | 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 | I.19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHP 221 | | | | | | | | | ✓ | | | | | | | | | | ✓ |
| PHP 322 | | | ✓ | | | | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| PHP 413 | | | | | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | |
| PHP 414 | | | | | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | |
| PHP 415 | | | ✓ | | | | ✓ | | | | | | ✓ | ✓ | | ✓ | | | ✓ |
| PHP 426 | | | | | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| PHP 427 | ✓ | | ✓ | | | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | ✓ |
| PHP 518 | | | | | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| PHP 519 | | | | | | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| PHP 520 | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| PHP 521 | | | | | | ✓ | | | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ |
| PHP 613 | | | | | | | ✓ | | | | | | ✓ | | | | | | ✓ |
| PHP 614 | | | | | | | | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| PHP 615 | | | | | | | ✓ | | ✓ | | | | | ✓ | ✓ | | ✓ | | ✓ |
| PHP 616 | | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | | ✓ |

**I. Program Aims towards graduate attributes**

| Courses | 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 | I.19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ENG EL | | | | | | | | | | | | | ✓ | | | | | | |
| ENG KET | | | | | | | | | | | | | ✓ | | | | | | |
| ENG KET A | | | | | | | | | | | | | ✓ | | | | | | |
| ENG PET | | | | | | | | | | | | | ✓ | | | | | | |
| ENG PET A | | | | | | | | | | | | | ✓ | | | | | | |
| CSC 101 | | | | | | | | | | | ✓ | | ✓ | ✓ | ✓ | | | | |
| PSC 110 | | | | | | | | | | | | | ✓ | | | ✓ | ✓ | | |
| PSY 101 | | | | | | | | | | | | | ✓ | | ✓ | ✓ | | | |
| SOC 101 | | | | | | | | | | | | | ✓ | | | | | | |
| SCT 101 | | | | | | | | | | | | | ✓ | ✓ | ✓ | | | | |
| ENV 101 | | | | | | ✓ | | | | | | | ✓ | | | | ✓ | | |
| Sum. Tr. | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |

## II. Knowledge and Understanding

| Courses | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHC 111 | ✓ | | | | | ✓ | | | | | | | | |
| PHC 122 | ✓ | | | | ✓ | | | | | | | | | |
| PHC 213 | ✓ | | | | ✓ | ✓ | ✓ | | | | | | | |
| PHC 114 | ✓ | | | | | ✓ | | | | | | | | |
| PHC 125 | ✓ | | | | | ✓ | | | ✓ | | | | | |
| PHC 216 | ✓ | ✓ | | | | ✓ | | | | | | | | |
| PHC 317 | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | | | | | |
| PHC 328 | ✓ | ✓ | | | ✓ | ✓ | ✓ | | ✓ | | | | | |
| PHC 429 | ✓ | | | | | | | | ✓ | | | | | |
| PHC 601 | ✓ | ✓ | | | | | | | | | | | | |
| PHC 602 | ✓ | | | | | ✓ | | | ✓ | | | | | |

| Courses | II.15 | II.16 | II.17 | II.18 | II.19 | II.20 | II.21 | II.22 | II.23 | II.24 | II.25 | II.26 | II.27 | II.28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHC 111 | | | | | | | | | | | | | | |
| PHC 122 | | | | | | | | | | | | | | |
| PHC 213 | | | | | | | | | | | | | | |
| PHC 114 | | | | | | | | | | | | | | |
| PHC 125 | | | | | | | | | | | | | | |
| PHC 216 | | | | | | | | | | | | | | |
| PHC 317 | | | | | | | ✓ | | | | ✓ | | | |
| PHC 328 | | | | | | | ✓ | | | | ✓ | | | |
| PHC 429 | | | | | | | | | | | | | | |
| PHC 601 | | | | | | | | | | | | | | |
| PHC 602 | | | | | | | | | | | | | | |

**II. Knowledge and Understanding**

| Courses | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHT 110 | ✓ | | | | | | | | | | | | | |
| PHT 111 | | ✓ | | | | | | | | | | | | |
| PHT 212 | ✓ | | | | | | | | | | | | | |
| PHT 223 | ✓ | | | | | ✓ | | | | | ✓ | | ✓ | |
| PHT 314 | ✓ | | | | | ✓ | | | | | ✓ | | ✓ | |
| PHT 325 | ✓ | | | | | | | | | | ✓ | | | |
| PHT 416 | | | | | | | | | | | ✓ | | | ✓ |
| PHT 517 | | | | | | | | | | | | ✓ | ✓ | |
| PHT 518 | | | | | | | | | | ✓ | ✓ | | | |
| PHT 529 | | | | | ✓ | | | | | | | | | |

| Courses | II.15 | II.16 | II.17 | II.18 | II.19 | II.20 | II.21 | II.22 | II.23 | II.24 | II.25 | II.26 | II.27 | II.28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHT 110 | | | | | | | | | | | | | | |
| PHT 111 | | ✓ | | | | | | | | | | | | ✓ |
| PHT 212 | | | | | | | | | | | | | | |
| PHT 223 | | | | | | | | | | | | | | |
| PHT 314 | | | | | | | | | | | | | | |
| PHT 325 | | | | ✓ | | | | | | | | | | |
| PHT 416 | ✓ | | | | | | | | | | | | | |
| PHT 517 | | | | | | | | | | | | | | |
| PHT 518 | | | | | | | | | | | | | | |
| PHT 529 | | | | | | | | | | | | | | |

**Courses**

## II. Knowledge and Understanding

| Courses | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHT 603 | ✓ | | | | | | | | | | | | | |
| PHT 604 | | | | ✓ | | ✓ | | | | | ✓ | | ✓ | |
| PHL 111 | ✓ | | | | | | | | | | | | | |
| PHL 122 | ✓ | | | | | | | | | | | | | |
| PHL 123 | ✓ | | | | | | | | | | | | | |
| PHL 214 | ✓ | | | | | | | | | | | | | |
| PHL 315 | | | | | | | | | | | | | | |
| PHL 326 | | | | | | | | | | | | | | |
| PHL 417 | | | | ✓ | | | | | | | | | | |
| PHL 518 | | | | | | | | | | | | | | |
| PHL 605 | | | | | | | | | | | | | | |
| PHL 606 | | | | | | | | | | | | | | |
| PHL 607 | | | | | | | | | | | | | | |

| Courses | II.15 | II.16 | II.17 | II.18 | II.19 | II.20 | II.21 | II.22 | II.23 | II.24 | II.25 | II.26 | II.27 | II.28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHT 603 | | | | | | | | | | | | | | |
| PHT 604 | | | | | | | | | | | | | | |
| PHL 111 | | | | | ✓ | | | | | | | | | |
| PHL 122 | | | | | | | | | | | | | | |
| PHL 123 | | | | | ✓ | | | | | | | | | |
| PHL 214 | | | | | ✓ | | | | | | ✓ | | | |
| PHL 315 | | | | | ✓ | ✓ | ✓ | | | | | | | |
| PHL 326 | | | | | ✓ | ✓ | ✓ | | | | | | | |
| PHL 417 | | | | | ✓ | ✓ | ✓ | | | | ✓ | | | |
| PHL 518 | | | | | | ✓ | ✓ | | | | | | | |
| PHL 605 | | | | | | ✓ | ✓ | | | | | | | ✓ |
| PHL 606 | | | | | | | | | | | ✓ | | | ✓ |
| PHL 607 | | | | | | ✓ | ✓ | | | | | | | ✓ |

**II. Knowledge and Understanding**

| Courses | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PBC 211 | √ | | | | | | | | | | | | | |
| PBC 222 | √ | | | | | | | | | | | | | |
| PBC 323 | √ | | | | | | | | | | | | | |
| PBC 414 | √ | | √ | | √ | | | | | | | | | |
| PBC 608 | √ | | | | | | | | | | | | | |
| PHG 111 | √ | √ | | | | √ | | | | | | | | |
| PHG 122 | √ | √ | | | √ | √ | | | | | | | | |
| PHG 223 | √ | √ | | | | √ | | √ | | | | | | |
| PHG 314 | √ | √ | | | | √ | | √ | | | | | | |
| PHG 425 | √ | | √ | | √ | | √ | | | | | | | |
| PHG 526 | √ | | | | √ | | | | | | | | | |
| PHG 609 | √ | √ | | | √ | √ | | √ | | | | | | |
| PHG 610 | √ | | | | | | | | | | | | | |

| Courses | II.15 | II.16 | II.17 | II.18 | II.19 | II.20 | II.21 | II.22 | II.23 | II.24 | II.25 | II.26 | II.27 | II.28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PBC 211 | | | | | √ | | | | | | | | | |
| PBC 222 | | | | | √ | √ | | | | | | | | |
| PBC 323 | √ | | | | √ | √ | | | | | | | | |
| PBC 414 | | | | | √ | √ | | | | | | | | |
| PBC 608 | | | | | √ | | | | | | | | | |
| PHG 111 | | | | | | | √ | √ | | | | | | |
| PHG 122 | | | | | | | √ | √ | | | | | | |
| PHG 223 | | | | | | | √ | √ | | | | | | |
| PHG 314 | | | | | | | √ | √ | | | | | | |
| PHG 425 | | | | | | | √ | | | | | | | |
| PHG 526 | | | | | | | √ | √ | | | | | | |
| PHG 609 | | | | | | | √ | | | | | | | |
| PHG 610 | | | | | | | | | | | | | | |

## II. Knowledge and Understanding

| Courses | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PMI 211 | √ | | | | | | | | | | | | | |
| PMI 312 | √ | | | | | | | | | | | | | |
| PMI 413 | √ | | | | | | | | | | | | | |
| PMI 424 | | | | | | | | | | | | | | |
| PMI 525 | | | √ | | | | | | | √ | | | | |
| PMI 611 | √ | | √ | | | | | | | | | | | |
| PMI 612 | | | | | | | | | | √ | | | | |

| Courses | II.15 | II.16 | II.17 | II.18 | II.19 | II.20 | II.21 | II.22 | II.23 | II.24 | II.25 | II.26 | II.27 | II.28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PMI 211 | | | | | | √ | | | | | | | | |
| PMI 312 | | | √ | √ | | | | | | | | | | |
| PMI 413 | | | | | √ | | | | | | | | | |
| PMI 424 | | | | | | √ | | | | | | | | |
| PMI 525 | | | | | √ | | | | | | | | | |
| PMI 611 | | | | | | | | | | | | | | |
| PMI 612 | | | | | | √ | | | | | | | | |

**II. Knowledge and Understanding**

| Courses | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHP 221 | ✓ | | | | | | | | | | | | | |
| PHP 322 | ✓ | | | ✓ | | | | | | | | | | |
| PHP 413 | ✓ | | | | | | | | | | | | | |
| PHP 414 | ✓ | | | | | | | | | | | | | |
| PHP 415 | ✓ | | | | | | | | | | | | | |
| PHP 426 | ✓ | | | | | | | | | | | | | ✓ |
| PHP 427 | ✓ | | | | | | | | | | | | | ✓ |
| PHP 518 | ✓ | | | | | | | | | | | | | ✓ |
| PHP 519 | ✓ | | | | | | | | | | | | | |
| PHP 520 | ✓ | | | | | | | | | | | | | ✓ |
| PHP 521 | ✓ | | | | | | | | | | | | | |
| PHP 613 | ✓ | | | | | | | | | | | | | |
| PHP 614 | | | | | | | | | | | | | | |
| PHP 615 | | | | | | | | | | | | | | |
| PHP 616 | | | | | | | | | | | | | | |

| Courses | II.15 | II.16 | II.17 | II.18 | II.19 | II.20 | II.21 | II.22 | II.23 | II.24 | II.25 | II.26 | II.27 | II.28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHP 221 | | | | | ✓ | ✓ | | | | | | | | |
| PHP 322 | | ✓ | | | | ✓ | ✓ | | | ✓ | | | | ✓ |
| PHP 413 | | | | | | | | | | | | ✓ | ✓ | ✓ |
| PHP 414 | | | | | | | ✓ | | | | | ✓ | ✓ | ✓ |
| PHP 415 | | ✓ | | | ✓ | ✓ | ✓ | | | | | | | ✓ |
| PHP 426 | | ✓ | | | ✓ | ✓ | ✓ | | | | | | | |
| PHP 427 | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | | | | ✓ |
| PHP 518 | | ✓ | | | | ✓ | ✓ | | | | | | | |
| PHP 519 | | | | | | | | | | | | | | |
| PHP 520 | | ✓ | | | ✓ | ✓ | ✓ | | | | | | | |
| PHP 521 | | | ✓ | | | | | | | ✓ | ✓ | | | ✓ |
| PHP 613 | | ✓ | | | | ✓ | | | | ✓ | ✓ | | | |
| PHP 614 | | | | | | ✓ | ✓ | | | ✓ | ✓ | | | ✓ |
| PHP 615 | | | | | | ✓ | ✓ | ✓ | | ✓ | | | | |
| PHP 616 | | | | | | | | | | | | | | ✓ |

## II. Knowledge and Understanding

| Courses | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ENG EL | ✓ | | | | | | | | | | | | | |
| ENG KET | ✓ | | | | | | | | | | | | | |
| ENG KET A | ✓ | | | | | | | | | | | | | |
| ENG PET | ✓ | | | | | | | | | | | | | |
| ENG PET A | ✓ | | | | | | | | | | | | | |
| CSC 101 | ✓ | | | | | | | | | | | | ✓ | ✓ |
| PSC 110 | ✓ | | | | | | | | | | | | | |
| PSY 101 | ✓ | | | | | | | | | | | | | |
| SOC 101 | ✓ | | | | | | | | | | | | | |
| SCT 101 | ✓ | | | | | | | | | | | | | |
| ENV 101 | ✓ | | | | | | | | | | | | | |
| Summ. Tr. | ✓ | | | | ✓ | ✓ | ✓ | ✓ | | | | | | |

| Courses | II.15 | II.16 | II.17 | II.18 | II.19 | II.20 | II.21 | II.22 | II.23 | II.24 | II.25 | II.26 | II.27 | II.28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ENG EL | | | | | | | | | | | | | | |
| ENG KET | | | | | | | | | | | | | | |
| ENG KET A | | | | | | | | | | | | | | |
| ENG PET | | | | | | | | | | | | | | |
| ENG PET A | | | | | | | | | | | | | | |
| CSC 101 | | ✓ | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| PSC 110 | | | | | | | | | | ✓ | | | | |
| PSY 101 | | ✓ | | | | | | | | | | | | ✓ |
| SOC 101 | | ✓ | | | | | | | | | | | | ✓ |
| SCT 101 | | | | | | | | | | ✓ | | | | |
| ENV 101 | | | | | | | | | | | | | | ✓ |
| Summ. Tr. | | ✓ | | ✓ | | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ |

## III. Intellectual Skills

| Courses | 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 111 |  | √ |  |  |  |  |  | √ |  |  |  |  |  |  |  |  |  | √ |  |  |  |
| PHC 122 |  | √ |  |  |  |  | √ | √ |  |  |  |  |  |  |  |  |  | √ |  |  |  |
| PHC 213 |  | √ |  |  |  |  |  | √ |  |  |  |  |  |  |  |  |  | √ |  |  |  |
| PHC 114 |  |  |  |  |  |  | √ |  |  |  |  |  |  |  |  |  |  | √ |  |  |  |
| PHC 125 |  |  |  |  |  |  | √ |  | √ |  |  |  |  |  |  |  |  | √ |  |  |  |
| PHC 216 |  |  |  |  |  |  | √ |  |  |  |  |  |  |  |  |  |  | √ |  |  |  |
| PHC 317 |  |  |  | √ | √ |  | √ | √ |  |  |  | √ |  | √ |  |  |  | √ | √ |  |  |
| PHC 328 |  |  |  | √ | √ |  | √ | √ |  |  |  | √ |  | √ |  |  |  | √ | √ |  |  |
| PHC 429 |  |  |  |  |  |  |  |  | √ |  |  |  |  |  |  |  |  | √ | √ |  |  |
| PHC 601 |  |  | √ | √ | √ |  |  | √ |  |  |  |  |  |  |  |  |  | √ |  |  |  |
| PHC 602 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | √ |  |  |  |
| PHT 110 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PHT 111 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PHT 212 | √ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PHT 223 | √ |  |  |  |  | √ |  |  |  |  |  |  | √ |  |  |  |  |  |  |  |  |
| PHT 314 | √ | √ |  |  |  | √ |  |  |  |  |  |  | √ |  |  |  |  |  |  |  |  |
| PHT 325 | √ |  |  |  |  | √ |  |  |  |  |  |  | √ | √ |  |  |  |  |  |  |  |
| PHT 416 |  | √ |  |  |  |  |  |  |  |  |  |  | √ |  |  |  |  |  |  |  |  |
| PHT 517 |  |  | √ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | √ |  |  |
| PHT 518 |  | √ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PHT 529 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PHT 603 | √ |  |  |  |  |  |  |  |  |  |  |  | √ |  |  |  |  |  |  |  |  |
| PHT 604 | √ |  |  |  |  |  |  |  |  |  |  |  | √ |  |  |  |  |  |  |  |  |

**Accredited by NAQAAE**  **Program Specifications**

**III. Intellectual Skills**

| Courses | 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 111 | | | | | | | | | | | | | | | | | | ✓ | | | |
| PHL 122 | | | | | | | | | | | | | | | | | | ✓ | | | |
| PHL 123 | | | | | | | | | | | | | | | | | | ✓ | | | |
| PHL 214 | | | | ✓ | | | | | | | | | | | | | | | | ✓ | |
| PHL 315 | | | | | | | | | | | | | | ✓ | | | | ✓ | | | |
| PHL 326 | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | |
| PHL 417 | | | | | | | | | | | | ✓ | | ✓ | ✓ | ✓ | | ✓ | | | |
| PHL 518 | | | | | | | | | | | | | ✓ | ✓ | | ✓ | | ✓ | | ✓ | |
| PHL 605 | | | | ✓ | | | | | | | | | ✓ | | | ✓ | | | | ✓ | |
| PHL 606 | | | | | | | | | | | | | | ✓ | | | ✓ | ✓ | | ✓ | |
| PHL 607 | | | | | | | | | | | | | | ✓ | | ✓ | ✓ | ✓ | | | |
| PBC 211 | | | | | | | | | | | | | | | | | | | | | ✓ |
| PBC 222 | | | | | | | | | | | | | | | | | ✓ | | | | |
| PBC 323 | | | | | | | | | | | | | | | | | ✓ | | | ✓ | |
| PBC 414 | | | | | | | | | | | | | ✓ | | | | ✓ | | | ✓ | ✓ |
| PBC 608 | | | | | | | | | | | | | | | | | | | | | |

**III. Intellectual Skills**

| Courses | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHG 111 | | | | ✓ | ✓ | | | ✓ | | | | | | | | | | | ✓ | | |
| PHG 122 | | | | ✓ | ✓ | | | ✓ | | | | | | | | | | | ✓ | | |
| PHG 223 | | | | ✓ | ✓ | | | ✓ | | | | | | | | | | | ✓ | | |
| PHG 314 | | | | ✓ | ✓ | | | ✓ | | | | | | | | | | | ✓ | | |
| PHG 425 | | | ✓ | ✓ | ✓ | | | ✓ | | | | | | | | | | | ✓ | | |
| PHG 526 | | | | ✓ | | ✓ | | ✓ | | | | | | | ✓ | | | | ✓ | | |
| PHG 609 | | | | ✓ | ✓ | | | ✓ | | | | | | | | | | | ✓ | | |
| PHG 610 | | | ✓ | | | | | | | | | | | | | | | | ✓ | | |
| PMI 211 | | | | | | | | | | | | | | | | | ✓ | | | | |
| PMI 312 | | | | ✓ | | | | | | | | | | | | | | | | | |
| PMI 413 | | | | | | | | | | | | ✓ | | | | | | ✓ | ✓ | | |
| PMI 424 | | | | | | | | | | | | | | | | | ✓ | | | | |
| PMI 525 | | | | | | | | | | ✓ | | | | | | | | | | ✓ | ✓ |
| PMI 611 | | | | | | | | | | | | | | | | | | | ✓ | ✓ | |
| PMI 612 | | | | | | | | | | ✓ | | | | | | | | | | | ✓ |

| Courses | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHP 221 | | | | | | | | | | | | | | | | | ✓ | ✓ | | | |
| PHP 322 | | | ✓ | | | ✓ | | | | | | ✓ | ✓ | ✓ | | | | ✓ | | | |
| PHP 413 | | | | | | | | | | | | | | | | ✓ | | ✓ | | | |
| PHP 414 | | | | | | | | | | | | | | | | ✓ | | ✓ | | | |
| PHP 415 | | | | | | | | | | | | ✓ | | ✓ | | ✓ | ✓ | ✓ | | | |
| PHP 426 | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | |
| PHP 427 | | | ✓ | | | | | | | | | ✓ | ✓ | ✓ | | | | ✓ | | | |
| PHP 518 | | | | | | | | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | |
| PHP 519 | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | |
| PHP 520 | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | |
| PHP 521 | | | | | | | | | | | | | | ✓ | | | ✓ | ✓ | | ✓ | |
| PHP 613 | | | | | | | | | | | | | | | | | ✓ | ✓ | | | |
| PHP 614 | | | | | | | | | | | | | | | | | ✓ | ✓ | | ✓ | |
| PHP 615 | | | | | | | | | | | | | | | | | ✓ | ✓ | | ✓ | |
| PHP 616 | | | | | | | | | | | | | | | | | | ✓ | | | |

III. Intellectual Skills

**III. Intellectual Skills**

| Courses | 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 EL | | | | | | | | | | | | | | | | | ✓ | ✓ | | | |
| ENG KET | | | | | | | | | | | | | | | | | ✓ | ✓ | | | |
| ENG KET A | | | | | | | | | | | | | | | | | ✓ | ✓ | | | |
| ENG PET | | | | | | | | | | | | | | | | | ✓ | ✓ | | | |
| ENG PET A | | | | | | | | | | | | | | | | | ✓ | ✓ | | | |
| CSC 101 | | | | | | | | | | | | | ✓ | | | | ✓ | ✓ | | ✓ | ✓ |
| PSC 110 | | | | | | | | | | | | | | | | | ✓ | | | | |
| PSY 101 | | | | | | | | | | | | | | | | | ✓ | ✓ | ✓ | | |
| SOC 101 | | | | | | | | | | | | | | | | | ✓ | ✓ | ✓ | | |
| SCT 101 | | | | | | | | | | | | | | | | | ✓ | ✓ | ✓ | ✓ | |
| ENV 101 | | | | | | | | | | | ✓ | | | | | | ✓ | | | | |
| Sum. Tr. | ✓ | ✓ | ✓ | ✓ | | ✓ | | | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |

**IV. Professional And Practical Skills**

| Courses | 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 | IV.20 | IV.21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHC 111 | ✓ | ✓ | ✓ | | | | | ✓ | | | | | | | | | | | | | |
| PHC 122 | ✓ | ✓ | ✓ | | | | | ✓ | | | | | | | | | | | | | |
| PHC 213 | ✓ | ✓ | ✓ | | | | | ✓ | | | | | | | ✓ | | | | | | |
| PHC 114 | ✓ | ✓ | ✓ | | | | | | | | | | | | ✓ | | | | | | |
| PHC 125 | ✓ | ✓ | ✓ | | | | | | ✓ | | | | | | ✓ | | | | | | |
| PHC 216 | ✓ | | | | | | | | | | | | | | | | | | | | |
| PHC 317 | ✓ | | ✓ | | | | ✓ | ✓ | ✓ | | | | | | ✓ | | | | | | |
| PHC 328 | ✓ | | ✓ | | | | ✓ | ✓ | ✓ | | | | | | ✓ | | | | | | |
| PHC 429 | ✓ | | ✓ | | | | | | ✓ | | | | | | | | | | | | |
| PHC 601 | ✓ | | | | | | | ✓ | | | | | | | | | | | | ✓ | |
| PHC 602 | ✓ | | | | | | | | ✓ | | | | | | | | | | | | |
| PHT 110 | | | | | | | | | | | | | | | | | | | | | |
| PHT 111 | | | | | | | | | | | | | | | | ✓ | ✓ | ✓ | | | |
| PHT 212 | | | | | | | | | | | | | | | ✓ | | | | | | |
| PHT 223 | ✓ | ✓ | | ✓ | ✓ | | | | | | | | | | | | | | | | |
| PHT 314 | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | | | | | | | | ✓ | | | | |
| PHT 325 | ✓ | | | ✓ | | ✓ | | | | | | | | | | | ✓ | | | | |
| PHT 416 | | | | | | | | | | | | | | | | ✓ | | | | | |
| PHT 517 | | | | | | ✓ | | | | | | | | | ✓ | | | | | | |
| PHT 518 | | | | | | | | | | | | | | | | | | | | | |
| PHT 529 | | | | | | | | | | | | | | | ✓ | | | | | | |
| PHT 603 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | | | | |
| PHT 604 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | | | | | | | | | |

**IV. Professional And Practical Skills**

| Courses | 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 | IV.20 | IV.21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHL 111 | √ | | | | | | | | | | | | | | | | | | | | |
| PHL 122 | √ | | | | | | | | | | | | | | | | | | √ | | |
| PHL 123 | √ | | | | | | | | | | | | | | | | | | √ | | |
| PHL 214 | | | | | | | | | | | | | | | | | | | √ | √ | |
| PHL 315 | √ | | | | | | | | | | | | | | | | | √ | √ | | |
| PHL 326 | | | | | | | | | | √ | | | | | | √ | | √ | √ | | |
| PHL 417 | | | | | | | | | | √ | | √ | | | | √ | | √ | √ | | |
| PHL 518 | | | | | | | | | | | | | | √ | | √ | | √ | √ | | |
| PHL 605 | | | | | | | | | | | | | | √ | | | | | √ | | |
| PHL 606 | | | | | | | | | | √ | | | | √ | | √ | | √ | √ | √ | |
| PHL 607 | | | | | | | √ | | | √ | | | | √ | | √ | | √ | √ | | |
| PBC 211 | √ | √ | √ | | | | √ | | | | | | | | √ | | | | | | |
| PBC 222 | √ | √ | √ | | | | | | | √ | | | | | | | | | √ | √ | |
| PBC 323 | √ | | | | | | | | | √ | | | | | √ | | | | √ | √ | |
| PBC 414 | √ | √ | | | | | | | | √ | | | | | | √ | | | √ | √ | |
| PBC 608 | √ | | | | | | | | | | | | | | | | | √ | | | |

## IV. Professional And Practical Skills

| Courses | 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 | IV.20 | IV.21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHG 111 | ✓ |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ |  |  |
| PHG 122 | ✓ |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ |  |  |
| PHG 223 | ✓ |  | ✓ |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ |  |  |
| PHG 314 | ✓ |  | ✓ |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ |  |  |
| PHG 425 | ✓ |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |
| PHG 526 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ | ✓ |
| PHG 609 | ✓ |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  | ✓ |  |  | ✓ |  |  |
| PHG 610 |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  | ✓ | ✓ | ✓ |
| PMI 211 |  |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ |  |  |  |  |  |  |  |  |
| PMI 312 | ✓ |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  |  |
| PMI 413 | ✓ |  |  |  |  |  |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |
| PMI 424 | ✓ |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ |  |  | ✓ |  |  |  |  |  |
| PMI 525 | ✓ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ |  |
| PMI 611 |  |  |  |  |  |  |  |  |  | ✓ |  |  | ✓ |  |  |  |  |  |  |  |  |
| PMI 612 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ✓ | ✓ |  |

**IV. Professional And Practical Skills**

| Courses | 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 | IV.20 | IV.21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHP 221 | √ | | | | | | | | | | | | | | | | | | | | |
| PHP 322 | | | √ | √ | √ | | | | | √ | | | | | | √ | √ | √ | | | √ |
| PHP 413 | | | | | | √ | | | | √ | | | | | | | | | √ | √ | √ |
| PHP 414 | | | | | | | | | | | | | | | | | | | √ | √ | √ |
| PHP 415 | | | | | | | | | | √ | | | | | | √ | √ | √ | | | √ |
| PHP 426 | | | | | | | | | | √ | | | | | | √ | √ | √ | | | |
| PHP 427 | √ | | | | | | | | | √ | | | | | | | √ | | | | |
| PHP 518 | | | | | | | | | | √ | | | | | | √ | √ | √ | | | |
| PHP 519 | | | | | | | | | | √ | | | | | | √ | √ | √ | | √ | |
| PHP 520 | | | | | | | | | | √ | | | | | | √ | √ | √ | | | |
| PHP 521 | | | | | | | | | | | | √ | | | | | | √ | √ | √ | √ |
| PHP 613 | | | | | | | | | | | | | | | | | √ | | | | |
| PHP 614 | | | | | | | | | | | | | | | | | | | √ | √ | √ |
| PHP 615 | | | | | | | | | | | | | | √ | | | | | √ | √ | √ |
| PHP 616 | | | | | | | | | | | | | | | | √ | | | | | |

**IV. Professional And Practical Skills**

| Courses | 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 | IV.20 | IV.21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ENG EL | ✓ | | | | | | | | | | | | | | | | | | | ✓ | |
| ENG KET | ✓ | | | | | | | | | | | | | | | | | | | ✓ | |
| ENG KET A | ✓ | | | | | | | | | | | | | | | | | | | ✓ | |
| ENG PET | ✓ | | | | | | | | | | | | | | | | | | | ✓ | |
| ENG PET A | ✓ | | | | | | | | | | | | | | | | | | | ✓ | |
| CSC 101 | | | | | | | | | | | | | | | | | | | | ✓ | |
| PSC 110 | | | | | | | | | | | | | | | | | | | | ✓ | |
| PSY 101 | ✓ | | | | | | | | | | | | | | | | | | | ✓ | |
| SOC 101 | | | | | | | | | | | | | | | | | | | | ✓ | |
| SCT 101 | ✓ | | | | | | | | | | | | | | | | | | | ✓ | |
| ENV 101 | ✓ | | | | | | | | | | | | | | | | | | | ✓ | |
| Sum. Tr. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |

**V. General And Transferable Skills**

| Courses | 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 111 |  | ✓ | ✓ | ✓ | ✓ |  |  | ✓ | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |
| PHC 122 |  | ✓ | ✓ | ✓ | ✓ |  |  | ✓ | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |
| PHC 213 |  | ✓ | ✓ | ✓ | ✓ | ✓ |  | ✓ | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |
| PHC 114 |  | ✓ | ✓ | ✓ | ✓ |  |  | ✓ | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |
| PHC 125 |  | ✓ | ✓ | ✓ | ✓ |  |  | ✓ | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |
| PHC 216 |  | ✓ | ✓ | ✓ | ✓ |  |  | ✓ | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |
| PHC 317 |  | ✓ | ✓ | ✓ | ✓ |  |  | ✓ | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |
| PHC 328 |  | ✓ | ✓ | ✓ | ✓ |  |  | ✓ | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |
| PHC 429 |  | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |
| PHC 601 |  | ✓ | ✓ | ✓ | ✓ |  |  | ✓ | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |
| PHC 602 |  | ✓ | ✓ | ✓ | ✓ |  |  | ✓ | ✓ | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |
| PHT 110 |  |  |  |  |  | ✓ |  |  |  |  |  |  |  |  | ✓ |  |
| PHT 111 | ✓ |  | ✓ |  | ✓ | ✓ |  |  | ✓ |  |  |  |  |  | ✓ |  |
| PHT 212 |  |  |  |  | ✓ |  |  |  |  |  |  |  |  |  |  | ✓ |
| PHT 223 | ✓ | ✓ |  |  | ✓ | ✓ |  |  |  |  |  |  | ✓ |  | ✓ | ✓ |
| PHT 314 | ✓ | ✓ |  |  | ✓ | ✓ |  |  |  |  |  |  | ✓ |  | ✓ | ✓ |
| PHT 325 |  | ✓ |  |  | ✓ | ✓ |  |  |  |  |  |  |  |  | ✓ | ✓ |
| PHT 416 | ✓ |  | ✓ |  | ✓ | ✓ | ✓ |  |  | ✓ |  | ✓ |  |  | ✓ |  |
| PHT 517 |  |  |  |  |  |  | ✓ |  |  |  |  |  | ✓ |  | ✓ |  |
| PHT 518 |  | ✓ | ✓ |  |  |  |  | ✓ |  |  |  |  |  | ✓ |  |  |
| PHT 529 |  |  |  |  | ✓ | ✓ |  |  |  |  |  |  | ✓ |  | ✓ |  |
| PHT 603 | ✓ | ✓ |  |  | ✓ |  |  |  |  | ✓ |  |  |  |  |  |  |
| PHT 604 | ✓ | ✓ | ✓ |  | ✓ | ✓ |  | ✓ |  | ✓ |  |  |  | ✓ | ✓ | ✓ |

**V. General And Transferable Skills**

| Courses | 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 111 | | | | | | | | | | | | | | ✓ | | |
| PHL 122 | | | ✓ | | ✓ | | | | | | | | | ✓ | | |
| PHL 123 | | | ✓ | | ✓ | | | | | | | | | ✓ | | |
| PHL 214 | | | | | ✓ | ✓ | | | | | | | | | | |
| PHL 315 | | | | | ✓ | | | | | | | | | | | |
| PHL 326 | | | ✓ | | ✓ | | | ✓ | | | | | | ✓ | ✓ | |
| PHL 417 | ✓ | | ✓ | | ✓ | | | ✓ | | | | | | | ✓ | |
| PHL 518 | ✓ | | ✓ | | ✓ | ✓ | | ✓ | ✓ | | | | | ✓ | ✓ | ✓ |
| PHL 605 | | ✓ | | | ✓ | | | ✓ | | | | | | | ✓ | ✓ |
| PHL 606 | | ✓ | ✓ | | ✓ | | | ✓ | ✓ | | | | | ✓ | ✓ | ✓ |
| PHL 607 | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | | | | ✓ | ✓ |
| PBC 211 | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | |
| PBC 222 | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ |
| PBC 323 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ |
| PBC 414 | | | | | ✓ | ✓ | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| PBC 608 | ✓ | | | | ✓ | | | ✓ | ✓ | | | | | ✓ | ✓ | |

**V. General And Transferable Skills**

| Courses | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHG 111 | | ✓ | ✓ | | ✓ | | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | | |
| PHG 122 | | ✓ | ✓ | | ✓ | | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | | |
| PHG 223 | | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | |
| PHG 314 | | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | |
| PHG 425 | | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ |
| PHG 526 | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | ✓ |
| PHG 609 | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | |
| PHG 610 | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| PMI 211 | | | ✓ | | ✓ | | ✓ | | | ✓ | | | | ✓ | | |
| PMI 312 | | | ✓ | | ✓ | | ✓ | | | ✓ | | | | ✓ | | |
| PMI 413 | | | ✓ | | ✓ | | ✓ | | | ✓ | | | | ✓ | | |
| PMI 424 | ✓ | | ✓ | | ✓ | | ✓ | | | ✓ | | | | ✓ | | |
| PMI 525 | | | ✓ | | ✓ | | ✓ | ✓ | | ✓ | | | | ✓ | ✓ | |
| PMI 611 | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | | ✓ | | | | ✓ | | |
| PMI 612 | | ✓ | ✓ | | ✓ | | ✓ | ✓ | | ✓ | | ✓ | | ✓ | ✓ | |

**V. General And Transferable Skills**

| Courses | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PHP 221 | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | | | | | ✓ | ✓ | |
| PHP 322 | ✓ | ✓ | | | ✓ | | ✓ | | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ |
| PHP 413 | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ |
| PHP 414 | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ |
| PHP 415 | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ |
| PHP 426 | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ |
| PHP 427 | ✓ | ✓ | | | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ | ✓ |
| PHP 518 | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ |
| PHP 519 | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | | ✓ | ✓ | ✓ |
| PHP 520 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ |
| PHP 521 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| PHP 613 | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | | ✓ | | |
| PHP 614 | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | ✓ | ✓ | ✓ |
| PHP 615 | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | ✓ | ✓ | ✓ |
| PHP 616 | ✓ | | | | ✓ | | | | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ |

**V. General And Transferable Skills**

| Courses | 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 EL | ✓ | ✓ | ✓ | ✓ | ✓ |  | ✓ |  |  |  |  |  |  | ✓ |  |  |
| ENG KET | ✓ | ✓ | ✓ | ✓ | ✓ |  | ✓ |  |  |  |  |  |  | ✓ |  |  |
| ENG KET A | ✓ | ✓ | ✓ | ✓ | ✓ |  | ✓ |  |  |  |  |  |  | ✓ |  |  |
| ENG PET | ✓ | ✓ | ✓ | ✓ | ✓ |  | ✓ |  |  |  |  |  |  | ✓ |  |  |
| ENG PET A | ✓ | ✓ | ✓ | ✓ | ✓ |  | ✓ |  |  |  |  |  |  | ✓ |  |  |
| CSC 101 | ✓ |  | ✓ | ✓ | ✓ | ✓ | ✓ |  |  |  |  | ✓ |  | ✓ | ✓ | ✓ |
| PSC 110 | ✓ |  | ✓ |  | ✓ |  | ✓ |  | ✓ |  |  |  |  | ✓ |  |  |
| PSY 101 | ✓ |  | ✓ |  | ✓ |  | ✓ |  | ✓ |  |  |  |  | ✓ |  |  |
| SOC 101 | ✓ | ✓ |  |  | ✓ |  | ✓ |  | ✓ |  |  |  |  | ✓ |  |  |
| SCT 101 | ✓ | ✓ | ✓ |  | ✓ | ✓ | ✓ |  |  |  |  |  |  | ✓ | ✓ |  |
| ENV 101 | ✓ |  | ✓ |  | ✓ |  | ✓ |  | ✓ |  |  |  |  | ✓ | ✓ |  |
| Sum. Tr. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

## 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 | 137 | Practical | 45 | Total | 182 |

4.b.ii    Distribution of credit hours:

- Faculty

| Compulsory | 162 | Elective | 8 | Total | 170 |

- Univ. Req.

| Compulsory | 8 | Elective | 4 | Total | 12 |

4.b.iii    No. of credit hours of basic sciences courses:

| No. | 21 | % | 11.53 |

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

| No. | 6 | % | 3.29 |

4.b.v    No. of credit hours of specialty courses:

| No. | 143 | % | 78.57 |

4.b.vi    No. of credit hours of other courses:

| No. | 12 | % | 6.59 |

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 No. | Course Title | No. of Units | No. of hours/ week | | Pre-requisites |
|---|---|---|---|---|---|
| | | | Lect. | Lab. | |
| PHC 111 | Pharmaceutical Analytical Chemistry-I | 3 | 2 | 1 | - |
| PHC 114 | Pharmaceutical Organic Chemistry-I | 3 | 2 | 1 | - |
| PHT 111 | Orientation and History of Pharmacy | 2 | 2 | 0 | - |
| PHL 111 | Anatomy and Histology | 2 | 1 | 1 | - |
| PHT 110 | Mathematics | 2 | 2 | 0 | - |
| PHG 111 | Pharmacognosy-I | 3 | 2 | 1 | - |
| ENG KET | English Ket | 2 | 2 | 0 | -ENG EL<br><br>-Placement into ENG KET |

##### b. Elective : None

**6.2 Level/ Year of Program:** First (Freshman)  **Semester:** Second

a.   **Compulsory**

| Code No. | Course Title | No. of Units | No. of hours/ week | | Pre-requisites |
|---|---|---|---|---|---|
| | | | Lect. | Lab. | |
| PHC 125 | Pharmaceutical Organic Chemistry-II | 4 | 3 | 1 | PHC114 |
| PHC 122 | Pharmaceutical Analytical Chemistry-II | 4 | 3 | 1 | - |
| PHG 122 | Pharmacognosy-II | 3 | 2 | 1 | - |
| PHL 122 | Medical Terminology | 1 | 1 | 0 | - |
| PHL 123 | Physiology | 3 | 3 | 0 | - |
| CSC 101 | Introduction to Computer | 2 | 1 | 1 | - |
| --------- | University Elective | 2 | 2 | 0 | - |

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

| Code | Course Title | No. of Units | No. of hrs./week | | Pre-requisites |
|---|---|---|---|---|---|
| | | | Lect. | Lab. | |
| PSY 101 | Psychology | 2 | 2 | 0 | - |
| SOC 101 | Sociology | 2 | 2 | 0 | - |
| SCT 101 | Scientific Thinking | 2 | 2 | 0 | - |
| ENV 101 | Environmental Sciences | 2 | 2 | 0 | - |

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

     **a.    Compulsory**

| Code No. | Course Title | No. of Units | No. of hours/ week | | Pre-requisites |
|---|---|---|---|---|---|
| | | | Lect. | Lab. | |
| PHC 216 | Structural Elucidation of Organic compounds | 3 | 2 | 1 | 125PHC |
| PHC 213 | Instrumental Analysis | 4 | 3 | 1 | 221PHC |
| PHT 212 | Physical Pharmacy | 3 | 2 | 1 | PHT 111 |
| PMI 211 | Parasitology | 2 | 1 | 1 | PHL 122 |
| PBC 211 | Biochemistry-1 | 3 | 2 | 1 | PHL 123 |
| PHL 214 | Pharmaceutical Biostatistics | 1 | 1 | 0 | PHL 122 |
| ------- | University Elective | 2 | 2 | 0 | - |

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

| Code | Course Title | No. of Units | No. of hrs./week | | Pre-requisites |
|---|---|---|---|---|---|
| | | | Lect. | Lab. | |
| PSY 101 | Psychology | 2 | 2 | 0 | - |
| SOC 101 | Sociology | 2 | 2 | 0 | - |
| SCT 101 | Scientific Thinking | 2 | 2 | 0 | - |
| ENV 101 | Environmental Sciences | 2 | 2 | 0 | - |

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

### a. Compulsory

| Code No. | Course Title | No. of Units | No. of hours/ week Lect. | No. of hours/ week Lab. | Pre-requisites |
|---|---|---|---|---|---|
| PHG 223 | Phytochemistry-I | 3 | 2 | 1 | PHG 111, PHG 122 |
| PBC 222 | Biochemistry-II | 4 | 3 | 1 | PBC 211 |
| PHT 223 | Pharmaceutics-I | 4 | 3 | 1 | PHT 111 |
| PHP 221 | Pathology & Pathophysiology | 4 | 3 | 1 | PHL 123 |
| PSC110 | Human Rights | 2 | 2 | 0 | - |
| ENG PET | English PET | 2 | 2 | 0 | - ENG KET<br>- ENG KET-A |

### a. Elective – number required: None

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

**a. Compulsory**

| Code No. | Course Title | No. of Units | No. of hours/ week | | Pre-requisites |
|---|---|---|---|---|---|
| | | | Lect. | Lab. | |
| PHC 317 | Medicinal Chemistry-I | 4 | 3 | 1 | PHC 216 |
| PHT 314 | Pharmaceutics-II | 4 | 3 | 1 | PHT 111 |
| PHL 315 | Pharmacology-I | 3 | 2 | 1 | PHL 123 |
| PHG 314 | Phytochemistry-II | 3 | 2 | 1 | PHG 111, PHG 122 |
| PMI 312 | Basic and Pharmaceutical Microbiology | 4 | 3 | 1 | PBC 211 |

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

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

   **a.   Compulsory**

| Code No. | Course Title | No. of Units | No. of hours/ week | | Pre-requisites |
|---|---|---|---|---|---|
| | | | **Lect.** | **Lab.** | |
| PHC 328 | Medicinal Chemistry-II | 4 | 3 | 1 | PHC 216 |
| PHT 325 | Pharmaceutics-III | 3 | 2 | 1 | PHT 110, PHT212 |
| PHL 326 | Pharmacology-II | 4 | 3 | 1 | PHL 315 |
| PBC 323 | Clinical Biochemistry | 4 | 3 | 1 | PBC 222 |
| PHP 322 | Pharmacy Practice-I | 3 | 2 | 1 | PHT 223 |

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

.

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

**a.        Compulsory**

| Code | Course Title | No. of Units | No. of hours/ week | | Pre-requisites |
|---|---|---|---|---|---|
| | | | Lect. | Lab. | |
| PHT 416 | Biopharmaceutics and Pharmacokinetics | 3 | 2 | 1 | PHT 325 |
| PHL 417 | Pharmacology-III | 3 | 2 | 1 | PHL 123 |
| PHP 413 | Drug Marketing | 2 | 2 | 0 | PHL 315 |
| PHP 414 | Pharmacoeconomics | 1 | 1 | 0 | PHL 315 |
| PMI 413 | Basic and Applied Immunology | 3 | 2 | 1 | PMI 312 |
| PBC 414 | Molecular Biology | 2 | 1 | 1 | PBC 222 |
| PHP 415 | Community Pharmacy | 3 | 2 | 1 | PHL 315 |
| ------- | Faculty Elective | 2 | 2 | 0 | - |

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

| Code | Course Title | No. of Units | No. of hours/ week | | Pre-requisites |
|---|---|---|---|---|---|
| | | | Lect. | Lab. | |
| PHC 601 | Analysis of Food and Cosmetics | 2 | 1 | 1 | PHC 213 |
| PHC 602 | Chemistry of Medicinal Heterocycles | 2 | 2 | 0 | PHC 216 |
| PHT 603 | Skin Care and Cosmetology | 2 | 1 | 1 | PHT 314 |
| PHT 604 | Radiopharmaceuticals | 2 | 2 | 0 | PHT 325 |
| PHL 605 | Drug Evaluation and Bioassay | 2 | 2 | 0 | PHL 326 |
| PHL 606 | Substance Abuse | 2 | 2 | 0 | PHL 518 |
| PHL 607 | Clinical Toxicology | 2 | 2 | 0 | PHL 518 |

| PBC 608 | Clinical Nutrition | 2 | 2 | 0 | PBC 222 |
|---------|-------------------|---|---|---|---------|
| PHG 609 | Marine Natural Products | 2 | 2 | 0 | PHG 314 |
| PHG 610 | Forensic Pharmacognosy | 2 | 2 | 0 | PHG314 |
| PMI 611 | Infection and Immunity | 2 | 2 | 0 | PMI 312 |
| PMI 612 | Advanced Biotechnology | 2 | 2 | 0 | PMI 312 |
| PHP 613 | Medical Devices | 2 | 1 | 1 | PHP 426 |
| PHP 614 | Clinical Trials | 2 | 1 | 1 | PHP 426 |
| PHP 615 | Evidence-Based Medicine | 2 | 1 | 1 | PHP 426 |
| PHP 616 | First Aid | 2 | 1 | 1 | PHP 221 |

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

### a. Compulsory

| Code | Course Title | No. of Units | No. of hours/ week Lect. | Lab. | Pre-requisites |
|------|--------------|--------------|-------|------|----------------|
| PHC 429 | Drug Design and Drug Development | 2 | 1 | 1 | PHC 317 |
| PHG 425 | Quality Control of Natural Products | 3 | 2 | 1 | PHG 223, PHG 314 |
| PMI 424 | Clinical Microbiology | 4 | 3 | 1 | PMI 413 |
| PHP 426 | Pharmacotherapeutics-I | 4 | 3 | 1 | PHL 326 |
| PHP 427 | Pharmacy Practice-II | 4 | 3 | 1 | PHP 221, PHT 416 |
| -------- | Faculty Electives | 2 | 2 | 0 | - |

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

| Code | Course Title | No. of Units | No. of hours/ week Lect. | Lab. | Pre-requisites |
|------|--------------|--------------|-------|------|----------------|
| PHC 601 | Analysis of Food and Cosmetics | 2 | 1 | 1 | PHC 213 |
| PHC 602 | Chemistry of Medicinal Heterocycles | 2 | 2 | 0 | PHC 216 |
| PHT 603 | Skin Care and Cosmetology | 2 | 1 | 1 | PHT 314 |
| PHT 604 | Radiopharmaceuticals | 2 | 2 | 0 | PHT 325 |
| PHL 605 | Drug Evaluation and Bioassay | 2 | 2 | 0 | PHL 326 |
| PHL 606 | Substance Abuse | 2 | 2 | 0 | PHL 518 |
| PHL 607 | Clinical Toxicology | 2 | 2 | 0 | PHL 518 |
| PBC 608 | Clinical Nutrition | 2 | 2 | 0 | PBC 222 |
| PHG 609 | Marine Natural Products | 2 | 2 | 0 | PHG 314 |

| | | | | | |
|---|---|---|---|---|---|
| PHG 610 | Forensic Pharmacognosy | 2 | 2 | 0 | PHG 314 |
| PMI 611 | Infection and Immunity | 2 | 2 | 0 | PMI 312 |
| PMI 612 | Advanced Biotechnology | 2 | 2 | 0 | PMI 312 |
| PHP 613 | Medical Devices | 2 | 1 | 1 | PHP 426 |
| PHP 614 | Clinical Trials | 2 | 1 | 1 | PHP 426 |
| PHP 615 | Evidence-Based Medicine | 2 | 1 | 1 | PHP 426 |
| PHP 616 | First Aid | 2 | 1 | 1 | PHP 221 |

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

### a. Compulsory

| Code | Course Title | No. of Units | No. of hours/ week | | Pre-requisites |
|------|--------------|--------------|--------|--------|----------------|
| | | | **Lect.** | **Lab.** | |
| PHT 517 | Industrial Pharmacy | 4 | 3 | 1 | PHT 314 |
| PHT 518 | Novel Drug Delivery Systems | 2 | 2 | 0 | PHT 416 |
| PHL 518 | Toxicology | 4 | 3 | 1 | PHL 326 |
| PHP 512 | Pharmacotherapeutics-II | 4 | 3 | 1 | PHL 417 |
| PHP 519 | Professional Pharmacy Skills and Drug Information | 3 | 2 | 1 | PHP 426 |
| --------- | Faculty Electives | 2 | 2 | 0 | - |

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

| Code | Course Title | No. of Units | No. of hours/ week | | Pre-requisites |
|------|--------------|--------------|--------|--------|----------------|
| | | | **Lect.** | **Lab.** | |
| PHC 601 | Analysis of Food and Cosmetics | 2 | 1 | 1 | PHC 213 |
| PHC 602 | Chemistry of Medicinal Heterocycles | 2 | 2 | 0 | PHC 216 |
| PHT 603 | Skin Care and Cosmetology | 2 | 1 | 1 | PHT 314 |
| PHT 604 | Radiopharmaceuticals | 2 | 2 | 0 | PHT 325 |
| PHL 605 | Drug Evaluation and Bioassay | 2 | 2 | 0 | PHL 326 |
| PHL 606 | Substance Abuse | 2 | 2 | 0 | PHL 518 |
| PHL 607 | Clinical Toxicology | 2 | 2 | 0 | PHL 518 |
| PBC 608 | Clinical Nutrition | 2 | 2 | 0 | PBC 222 |

| PHG 609 | Marine Natural Products | 2 | 2 | 0 | PHG 314 |
|---------|-------------------------|---|---|---|---------|
| PHG 610 | Forensic Pharmacognosy | 2 | 2 | 0 | PHG 314 |
| PMI 611 | Infection and Immunity | 2 | 2 | 0 | PMI 312 |
| PMI 612 | Advanced Biotechnology | 2 | 2 | 0 | PMI 312 |
| PHP 613 | Medical Devices | 2 | 1 | 1 | PHP 426 |
| PHP 614 | Clinical Trials | 2 | 1 | 1 | PHP 426 |
| PHP 615 | Evidence-Based Medicine | 2 | 1 | 1 | PHP 426 |
| PHP 616 | First Aid | 2 | 1 | 1 | PHP 221 |

**6.10. Level/ Year of Program:** Fifth (Senior 2)        **Semester:** Tenth

**a.  Compulsory**

| Code No. | Course Title | No. of Units | No. of hours/ week | | Pre-requisites |
|----------|--------------|--------------|-------|------|----------------|
| | | | **Lect.** | **Lab.** | |
| PHT 529 | Quality Control and Quality Assurance | 4 | 3 | 1 | PHC213, PHT223, PHT314, PHT325 |
| PHG 526 | Phytotherapy | 1 | 1 | 0 | PHL 417 |
| PMI 525 | Pharmaceutical Biotechnology | 2 | 1 | 1 | PMI 312 |
| PHP 520 | Clinical Pharmacy | 3 | 2 | 1 | PHP 426 |
| PHP 521 | Pharmacoepidemiology, Pharmacovigilance and Health Promotion | 4 | 3 | 1 | PHP 426 |
| --------- | Faculty Electives | 2 | 2 | 0 | PHC213, PHT223, PHT314, PHT325 |

**b.  Elective – number required:** One [Elective Faculty Course (4)]

| Code | Course Title | No. of Units | No. of hours/ week | | Pre-requisites |
|------|--------------|--------------|-------|------|----------------|
| | | | **Lect.** | **Lab.** | |
| PHC 601 | Analysis of Food and Cosmetics | 2 | 1 | 1 | PHC 213 |
| PHC 602 | Chemistry of Medicinal Heterocycles | 2 | 2 | 0 | PHC 216 |
| PHT 603 | Skin Care and Cosmetology | 2 | 1 | 1 | PHT 314 |
| PHT 604 | Radiopharmaceuticals | 2 | 2 | 0 | PHT 325 |
| PHL 605 | Drug Evaluation and Bioassay | 2 | 2 | 0 | PHL 326 |

| PHL 606 | Substance Abuse | 2 | 2 | 0 | PHL 518 |
|---------|-----------------|---|---|---|---------|
| PHL 607 | Clinical Toxicology | 2 | 2 | 0 | PHL 518 |
| PBC 608 | Clinical Nutrition | 2 | 2 | 0 | PBC 222 |
| PHG 609 | Marine Natural Products | 2 | 2 | 0 | PHG 314 |
| PHG 610 | Forensic Pharmacognosy | 2 | 2 | 0 | PHG 314 |
| PMI 611 | Infection and Immunity | 2 | 2 | 0 | PMI 312 |
| PMI 612 | Advanced Biotechnology | 2 | 2 | 0 | PMI 312 |
| PHP 613 | Medical Devices | 2 | 1 | 1 | PHP 426 |
| PHP 614 | Clinical Trials | 2 | 1 | 1 | PHP 426 |
| PHP 615 | Evidence-Based Medicine | 2 | 1 | 1 | PHP 426 |
| PHP 616 | First Aid | 2 | 1 | 1 | PHP 221 |

### 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.
  - 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

### a. First Year(Freshman)

Students are required to complete less than 36 credit hrs.

### b. Second Year (Sophomore)

Students are required to complete from 36 <73 credit hrs.

### c. Third Year (Junior)

Students are required to complete from 73<109 credit hrs.

### d. Fourth Year (Senior1)

Students are required to complete from 109 <147 credit hrs.

### e. Fifth Year (Senior 2)

Students are required to complete from 157 <182 credit hrs.

## 9. 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:

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

## The Equivalent Grade to each CGPA

| CGPA | Grade | Percentage | Equivalent Grade |
|------|-------|------------|------------------|
| 4.0 | A | 90 to100 | 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.

## 10. 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. |

## 11. Program Assessment Methods:

| Evaluator | Tool | Sample |
|---|---|---|
| 1. **Senior students**<br>(students at levels 4 and 5 ) | - Meetings<br>- Questionnaire | at least 50% |
| 2. **Alumni** | - Questionnaire | 25% |
| 3. **Stakeholders** | - Discussions.<br>- Questionnaires.<br>- 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** | **25/9/2017** |