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| --- |
| **Program Name: Higher Diploma in Pharmaceutical Manufacturing** |
| **Qualification Level : Bachelor** |
| **Department: Pharmaceutics** |
| **College: Pharmacy** |
| **Institution: University of Tabuk** |

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# A. Program Identification and General Information

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1. Program Main Location: | | | | | | |
| Faculty of Pharmacy, University of Tabuk | | | | | | |
| 2. Branches Offering the Program: | | | | | | |
| None | | | | | | |
| 3. Reasons for Establishing the Program:  (Economic, social, cultural, and technological reasons, and national needs and development, etc.) | | | | | | |
| * National needs to establish pharmaceutical companies. * Providing graduates of colleges of science (chemistry, biochemistry, chemistry and physics and microbiology) and corresponding colleges with the necessary expertise and skills required for the job market in the pharmaceutical industry. * Bridge the gap in the required skills between the labor market and university outputs by providing trainees with the necessary practical experience. * Providing training opportunities in Saudi pharmaceutical companies that are equipped with the latest technologies in the field of pharmaceutical industry. * Strengthening the relationship between the industrial sector and academic and research institutions. | | | | | | |
| 4. System of Study | | | | | | |
|  | Coursework & Thesis | Coursework | | | | |
| 5. Mode of Study | | | | | | |
|  | On Campus | Distance Education | | | Others | |
| 6. Educational and Research Partnerships( if any) | | | | | | |
| * Partnership Arrangement: None * Type of Partnership: * Duration of Partnership: | | | | | | |
| 7. Total Credit Hours for Completing the Program: 32 hours | | | | | | |
| 8. Professional Occupations/Jobs: | | | | | | |
| * Saudi Pharmaceutical Companies and Medical Appliances Companies. * Drug Research and Quality Control Centers. * General Authority for Food and Drug Administration. | | | | | | |
| 9. Major Tracks/Pathways (if any): None | | | | | | |
| Major Track/Pathway | | | **Credit Hours**  (For each track) | **Professional Occupations/Jobs**  (For each track) | | |
|  | | |  |  | | |
|  | | |  |  | | |
|  | | |  |  | | |
|  | | |  |  | | |
| 10. Intermediate Exit Points/Awarded Degree (if any): None | | | | | | |
| Intermediate Exit Points/Awarded Degree | | | | | | **Credit Hours** |
|  | | | | | |  |
|  | | | | | |  |
|  | | | | | |  |

# B. Mission, Goals, and Learning Outcomes

|  |  |  |
| --- | --- | --- |
| **1. Program Mission:** | | |
| Preparing graduates qualified with the knowledge and skill required to work in various fields of the pharmaceutical industry. | | |
| **2. Program Goals:** | | |
| * Mind the gap between the university outputs and the required skills for the labor market in the pharmaceutical industry. * Provide the students with knowledge required to evaluate raw materials used in pharmaceutical industry. * Provide the students with the skills and competencies needed to prepare and evaluate various pharmaceutical dosage forms. * Prepare graduates having the skills needed for the assay of drugs in bulk and in various dosage forms. | | |
| **3. Relationship between Program Mission and Goals and the Mission and Goals of the Institution/College.** | | |
| The Faculty mission is to offer a distinguished pharmaceutical education to prepare university graduates with the knowledge, capabilities and research skills needed to serve the community. Based on this it is obvious that this program has a strong relationship to the faculty mission and goals. | | |
| **4. Graduate Attributes:** | | |
| * Graduates are able to work in various sectors in the pharmaceutical industry. * Graduates are equipped with the necessary knowledge about the properties of substances used in pharmaceutical industry. * Graduates have the required information about registration of new drug products. * Graduates have the information and skills needed for drug assay and quality control. | | |
| **5.Program Learning Outcomes\*** | | |
| **Knowledge and Understanding** | | |
| **K1** | | Demonstrate different types of design, manufacture, delivery, properties, quality assurance, and registration of different drug dosage forms. |
| **K2** | | Describe various assay methods for drugs in bulk and in various dosage forms. |
| **K3** | | Memorize quality assurance and safety systems in Pharmaceutical plants. |
| **K4** | | Define properties of drug substances that affect their manufacture into various dosage form. |
| **Skills** | | |
| **S1** | Explain various methods and techniques of preparation, evaluation and registration of Pharmaceutical dosage forms. | |
| **S2** | Apply basic drug development skills in relevant setting. | |
| **S3** | Manage risks, hazards and waste in pharmaceutical industry. | |
| **Values** | | |
| **V1** | Plan effective time management schedules, independent thinking and adoption to changes or unanticipated circumstances to solve problems that arise in daily practice. | |
| **V2** | Demonstrate leadership skills, accountability and acceptance of responsibility within a team in various work settings. | |

\* Add a table for each track or Exit Points/Awarded Degree (if any)

# C. Curriculum

**1. Study Plan Structure**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Program Structure** | | **No. of Courses** | **Credit**  **Hours** | **Percentage** |
| **Course** | Required | **14** | **32** | **100%** |
| Elective | **--** | **--** | **--** |
| **Graduation Project** (if any) | | **--** | **--** | **--** |
| **Thesis** (if any) | | **--** | **--** | **--** |
| **Field Experience**(if any) | | **--** | **--** | **--** |
| **Others** (.....) | | **--** | **--** | **--** |
| **Total** | | **14** | **32** | **100%** |

\* Add a table for each track (if any)

**2. Program Courses:**

| **Level** | **Course**  **Code** | **Course Title** | **Required**  **or Elective** | **Pre-Requisite**  **Courses** | **Credit**  **Hours** |
| --- | --- | --- | --- | --- | --- |
| **Level**  **1** | **HDPH 111** | Pharmaceutical dosage forms-1 | Required | -- | 3 |
| **HDPC 111** | Pharmaceutical organic chemistry-1 | Required | -- | 2 |
| **HDPH 121** | Physical Pharmacy | Required | -- | 3 |
| **HDPC 121** | Advanced pharmaceutical analysis techniques-1 | Required | -- | 3 |
| **HDPH 131** | Quality assurance systems in pharmaceutical plants-1 | Required | -- | 2 |
| **HDPC 131** | Industrial and laboratory safety | Required | -- | 2 |
| **Level**  **2** | **HDPH 112** | Pharmaceutical dosage forms-2 | Required | **--** | 2 |
| **HDPC 112** | Pharmaceutical organic chemistry-2 | Required | **--** | 2 |
| **HDPH 132** | Quality assurance systems in pharmaceutical plants-2 | Required | **--** | 2 |
| **HDPH 141** | Pharmaceutical technology | Required | **--** | 2 |
| **HDPC 122** | Advanced pharmaceutical analysis techniques-2 | Required | **--** | 3 |
| **HDPC 132** | Properties of materials | Required | **--** | 2 |
| **HDNP 111** | Pharmaceutical biotechnology | Required | -- | 2 |
| **HDPH 151** | Pharmaceutical products registration | Required | -- | 2 |

\* Include additional levels if needed

\*\* Add a table for each track (if any)

**3. Course Specifications**

Insert hyperlink for all course specifications using NCAAA template

|  |
| --- |
|  |

**4. Program learning Outcomes Mapping Matrix**

Align the program learning outcomes with program courses, according to the following desired levels of performance

(**I = Introduced P = Practiced M = Mastered )**

| **Course code & No.** | **Program Learning Outcomes** | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Knowledge and understanding** | | | | **Skills** | | | **Values** | |
| **K1** | **K2** | **K3** | **K4** | **S1** | **S2** | **S3** | **V1** | **V2** |
| **Course HDPH 111** | I |  |  |  | I |  |  |  |  |
| **Course HDPC 111** |  |  |  | I |  | I |  | I |  |
| **Course HDPH 121** | I |  |  | I | I |  |  |  |  |
| **Course HDPC 121** |  | I |  |  | I |  |  | I |  |
| **Course HDPH 131** | M |  | I |  |  | M |  | I |  |
| **Course HDPC 131** |  |  | M |  |  |  | I |  | I |
| **Course HDPH 112** | M |  |  |  | M |  |  | M |  |
| **Course HDPC 112** |  |  |  | M |  | M |  | M |  |
| **Course HDPH 132** | M |  | M |  |  | M |  | M | M |
| **Course HDPH 141** | M |  |  |  |  | M |  | M |  |
| **Course HDPC 122** |  | M |  |  | M |  |  |  | M |
| **Course HDPC 132** |  |  |  | M |  | M |  | M |  |
| **Course HDNP 111** | M |  |  |  | M |  |  | M |  |
| **Course HDPH 151** | M |  |  |  | M |  |  | M | M |

\* Add a table for each track (if any)

|  |
| --- |
| **5. Teaching and Learning Strategies to Achieve Program Learning Outcomes**  Describe policies, teaching and learning strategies, learning experience, and learning activities, including curricular and extra-curricular activities, to achieve the program learning outcomes. |
| * Lectures * Class discussions * Practical lessons * Training visits to Tabuk Pharmaceutical Company |
| **6. Assessment Methods for Program Learning Outcomes.**  Describe assessment methods (Direct and Indirect) that can be used to measure achievement of program learning outcomes in every domain of learning. |
| * Written examinations * Quizzes * Practical examinations |

# D. Thesis and Its Requirements (if any)

|  |
| --- |
| **1. Registration of the thesis:**  (Requirements/conditions and procedures for registration of the thesis as well as controls, responsibilities and procedures of scientific guidance) |
| No thesis required. |
| **2. Scientific Supervision:**  (The regulations of the selection of the scientific supervisor and his/her responsibilities, as well as the procedures/ mechanisms of the scientific supervision and follow-up) |
| No thesis required. |
| **3.Thesis Defense/Examination:**  (The regulations for selection of the defense/examination committee and the requirements to proceed for thesis defense, the procedures for defense and approval of the thesis, and criteria for evaluation of the thesis) |
| No thesis required. |

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# E. Student Admission and Support:

|  |
| --- |
| **1. Student Admission and Transfer Requirements, and Courses Equivalency** |
| Students are admitted to the program through the Deanship of Graduate Studies after fulfilling the admission requirements. The number of admitted students will be determined after consultation of the program manager and the vice deanship of the Faculty of Pharmacy for graduate studies and scientific research. |
| **2. Student Counseling Services**  (academic, career, psychological and social ) |
| Academic advising services for the students will be done according to the system used in University of Tabuk. Vice deanship of the Faculty of Pharmacy for graduate studies and scientific research will allocate students to different academic advisors and will supervise the good conduct of this process.  Career planning services will be arranged during visits to Tabuk Pharmaceutical Company. |
| **3. Special Support**  (low achievers, disabled, gifted and talented) |
| Counselling services will be offered to low achiever students.  Some arrangements with Tabuk Pharmaceutical Company will be made to hire top achievers. |

# F. Teaching and Administrative Staff

**1. Needed Teaching and Administrative Staff**

| **Academic Rank** | **Specialty** | | **Special Requirements / Skills ( if any )** | **Required Numbers** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **General** | **Specific** | **M** | **F** | **T** |
| **Professors** | **--** | **2** | **--** | **1** | **1** | **2** |
| **Associate Professors** | **--** | **4** | **--** | **2** | **2** | **4** |
| **Assistant Professors** | **--** | **6** | **--** | **3** | **3** | **6** |
| **Technicians and Laboratory Assistants** | **--** | **6** | **--** | **3** | **3** | **6** |
| **Administrative and Supportive Staff** | **--** | **2** | **--** | **1** | **1** | **2** |
| **Others ( specify )** | **--** | **--** | **--** | **--** | **--** | **--** |

**2. Professional Development**

|  |
| --- |
| **2.1 Orientation for New Teaching Staff**  Describe briefly the process used for orientation of new, visiting and part-time teaching staff |
| The Deanship for Quality and Development offers a special orientation program for new teaching staff. The program is comprehensive and includes a wide range of workshops that include for example laws and ethics applied in the university, modern teaching strategies …etc |
| **2.2 Professional Development for Teaching Staff**  Describe briefly the plan and arrangements for academic and professional development of teaching staff (e.g., teaching & learning strategies, learning outcomes assessment, professional development, etc.) |
| This program is implemented by the Deanship for Quality and Development to improve the skills of teaching staff through various workshops that are offered all year round. |

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# G. Learning Resources, Facilities, and Equipment

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| --- |
| **1. Learning Resources.**  Policies and Procedure for providing and quality assurance of learning resources (textbooks, references and other resource materials, including electronic and web-based resources, etc.) |
| The program administration and faculty members identify the appropriate resources and services that are required to support teaching and learning of the students. University of Tabuk has a central policy to provide learning resources, materials and equipment. The college identifies the required resources and the Deanship of Libraries take the necessary steps to make them available. Electronic resources are available through the Saudi Digital Library.  The program will evaluate the adequacy of and appropriateness of learning resources and services provided to support students learning through different surveys for staff members as well as students' evaluation survey and program evaluation survey. |
| **2. Facilities and Equipment**  Policies and Procedure for providing and quality assurance of Facilities and Equipment (Library, laboratories, medical facilities, classrooms, etc.). |
| Each department of the college determines its needs from the learning resources, chemicals, and all other supplies needed for the program and the college administration submits this to the University administration. The adequacy and quality assurance of these supplies are determined through different surveys for staff members as well as students' evaluation survey. |
| **3. Arrangements to Maintain a Healthy and Safe Environment** (According to the nature of the program) |
| The general procedure to maintain a healthy and safe environment in the building is operated centrally by the University Department of Health and Safety. Each lab in the college has clear instructions for the good and safe conduct in the lab. Waste from different labs is disposed through a central committee in the University. |

# H. Program Management and Regulations

|  |
| --- |
| **1. Program Management**  **1.1 Program Structure**  (including boards, councils, units, committees, etc.) |
|  |
| **1.2** **Stakeholders’ Involvement**  Describe the representation and involvement of stakeholders in the program planning and development. (students, professional bodies, scientific societies, alumni, employers, etc.) |
| During the design and planning of the program several stakeholders, such as Tabuk Pharmaceutical Company and Ministry of Industry, Pharmaceutical Industries Committee were consulted and their inputs were taken into consideration for the program structure. |
| **2. Program Regulations**  Provide a list of related program regulations, including their link to online version: admission, study and exams, recruitment, appeals and complaint regulations, etc.) |
| University of Tabuk rules and regulations for undergraduate and postgraduate studies will be applied. They can be found here: [https://www.ut.edu.sa/ar/web/vrgssr/postgrad\_guidebook](http://?) |

# I. Program Quality Assurance

|  |
| --- |
| **1. Program Quality Assurance System**  Provide online link to quality assurance manual |
|  |
| **2.** Program Quality Monitoring Procedures |
| The program will be monitored to insure its quality through:  **Courses' topics and facilities:**   * Coverage of planned course topics and the reasons if not covered, which helps in finding future solution. In case of presence of incomplete parts, the instructor is asked to make a compensation. * Students grades to find out presence of any deviation in the grades. * Availability and adequacy of learning resources, equipment and facilities * Administrative issues that may affect teaching procedures.   **Exams and assessment of learning outcomes:**   * Verification of efficiency of assessment methods and students' achievements. * Exam evaluation for the fulfillment of exam instructions, number of questions, time required, marks and clarity of questions and printing. * Students' grades to implement plans for improvement in their department council. * The methods of assessment of learning outcomes to assess the efficiency of teaching and to plan for future improvement.   **Reporting and planning:**   * The results of measuring learning outcomes of the course, which are essential part in measuring the program learning outcomes and factors affecting the results to implement improvement plans. * Surveys will be conducted for courses, graduates, alumni and employers to collect their feed and to plan for future improvement. |
| **3. Arrangements to Monitor Quality of Courses Taught by other Departments.** |
| For courses that should be taught by other departments:   * Courses specifications will be prepared by these departments under supervisor of the program manager and the vice deanship for development and quality and revised carefully for their suitability of the program. * Course specifications will be approved in the department council and the council of Faculty of Pharmacy. * Instructors will be given the specifications at beginning of each semester and requested to follow them carefully. * The head of the department will supervise the teaching of these courses and the assessment methods. * The course report will be discussed at the end of the semester in the department council to insure the efficiency of the courses and will be revised by the vice deanship for quality and development. * All the results of the courses including students’ achievement, opinion, assessment of learning outcomes and plans of improvement will be discussed in the department council and approved for implementation. |
| **4. Arrangements Used to Ensure the Consistency between Main Campus and Branches** (including male and female sections) |
| This is program is offered in the main campus only. To ensure consistency between male and female sections, faculty members make arrangements so that the same material is taught in both sections. Same evaluations and exams are also administered. |
| **5.** Arrangements to Apply the Institutional Regulations Governing the Educational and Research Partnerships (if any). |
| None |
| **6.** **Assessment Plan for Program Learning Outcomes (PLOs), and Mechanisms of Using its Results in the Development Processes** |
| * The learning outcomes of the program will be measured annually. A report will be prepared at the end of each academic year for the results of the measurements. * An improvement plan will be prepared according to the results of the measurement to be implemented in the next academic year. * At the end of the subsequent academic year to observe the results of the improvement plan. * Modifications will be done in accordance. |

**7. Evaluation of Program Quality Matrix**

| **Evaluation**  **Areas/Aspects** | **Evaluation**  **Sources/References** | **Evaluation Methods** | **Evaluation Time** |
| --- | --- | --- | --- |
| Effectiveness of teaching & assessment | Students | Courses evaluation Surveys | End of semester |
| Adequacy of learning resources | Students | Courses evaluation Survey | End of semester |
| Graduate attributes | Employers | Employers evaluation Survey | Six months after graduation |
| Student satisfaction about the program | Students | Program evaluation Survey | End of program |
| Graduates | Alumni evaluation survey | Six months after graduation |

**Evaluation Areas/Aspects** (e.g., leadership, effectiveness of teaching & assessment, learning resources, partnerships, etc.)

**Evaluation Sources** (students, graduates, alumni, faculty, program leaders, administrative staff, employers, independent reviewers, and others (specify)

**Evaluation Methods** (e.g., Surveys, interviews, visits, etc.)

**Evaluation Time** (e.g., beginning of semesters, end of academic year, etc.)

**8. Program KPIs\***

The period to achieve the target ( 3 ) years.

| **No** | **KPIs Code** | **KPIs** | **Target** | **Measurement Methods** | **Measurement Time** |
| --- | --- | --- | --- | --- | --- |
| 1 | KPI-P-01 | Percentage of achieved indicators of the program operational plan objectives | 70% | Percentage of performance indicators of the operational plan objectives of the program that achieved the targeted annual level to the total number of indicators targeted for these objectives in the same year | At the end of each academic year |
| 2 | KPI-P-02 | Students' Evaluation of quality of learning experience in the program | 70% | Average of overall rating of final year students for the quality of learning experience in the program on a five-point scale in an annual survey | At the end of the program |
| 3 | KPI-P-03 | Students' evaluation of the quality of the courses | 70% | Average students overall rating for the quality of courses on a five-point scale in an annual survey | At the end of each semester |
| 4 | KPI-P-04 | Completion rate | 70% | Proportion of undergraduate students who completed the program in minimum time in each cohort | At the end of the program |
| 5 | KPI-P-05 | First-year students retention rate | -- | Percentage of first-year undergraduate students who continue at the program the next year to the total number of first-year students in the same year | At the end of the program |
| 6 | KPI-P-06 | Students' performance in the professional and/or national examinations | -- | Percentage of students or graduates who were successful in the professional and / or national examinations, or their score average and median | At the end of the program |
| 7 | KPI-P-07 | Graduates’ employability and enrolment in postgraduate programs | 60% | Percentage of graduates from the program who within a year of graduation were:  a. employed  b. enrolled in postgraduate programs  during the first year of their graduation to the total number of graduates in the same year | At the end of the program |
| 8 | KPI-P-08 | Average number of students in the class | 30 | Average number of students per class (in each teaching session/activity: lecture, small group, tutorial, laboratory or clinical session) | At the end of each semester |
| 9 | KPI-P-09 | Employers' evaluation of the program graduates proficiency | 70% | Average of overall rating of employers for the proficiency of the program graduates on a five-point scale in an annual survey | One year after graduation |
| 10 | KPI-P-10 | Students' evaluation of quality of learning experience in the program | 70% | Average of students’ satisfaction rate with the various services offered by the program (restaurants, transportation, sports facilities, academic advising, ...) on a five-point scale in an annual survey | At the end of each semester |
| 11 | KPI-P-11 | Ratio of students to teaching staff | 8:1 | Ratio of the total number of students to the total number of full-time and full-time equivalent teaching staff in the program | At the end of each academic year |
| 12 | KPI-P-12 | Percentage of teaching staff distribution | -- | Percentage of teaching staff distribution based on:  a. Gender  b. Branches  c. Academic Ranking | At the end of each academic year |
| 13 | KPI-P-13 | Proportion of teaching staff leaving the program | <5% | Proportion of teaching staff leaving the program annually for reasons other than age retirement to the total number of teaching staff. | At the end of each academic year |
| 14 | KPI-P-14 | Percentage of publications of faculty members | 60% | Percentage of full-time faculty members who published at least one research during the year to total faculty members in the program | At the end of each academic year |
| 15 | KPI-P-15 | Rate of published research per faculty member | 1:1 | The average number of refereed and/or published research per each faculty member during the year (total number of refereed and/or published research to the total number of full-time or equivalent faculty members during the year) | At the end of each academic year |
| 16 | KPI-P-16 | Citations rate in refereed journals per faculty members | 10:1 | The average number of citations in refereed journals from published research per faculty member in the program (total number of citations in refereed journals from published research for full-time or equivalent faculty members to the total research published) | At the end of each academic year |
| 17 | KPI-P-17 | Satisfaction of beneficiaries with the learning resources | 70% | Average of beneficiaries’ satisfaction rate with the adequacy and diversity of learning resources (references, journals, databases… etc.) on a five-point scale in an annual survey. | At the end of each academic year |

\* including KPIs required by NCAAA

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# j. Specification Approval Authority

|  |  |
| --- | --- |
| **Council / Committee** | **Pharmaceutics Department** |
| **Reference No.** | **16/1444** |
| **Date** | **04-02-1445** |