

BACHELOR OF PHARMACY (B. PHARM) PROGRAM
(A Four Year Undergraduate Program in Pharmacy)

for

Private Universities in Bangladesh

Approved by
University Grants Commission (UGC)
Dhaka, Bangladesh


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BACHELOR OF PHARMACY PROGRAM (B.PHARM) **(in Private Universities in Bangladesh)**

Introduction:

Pharmacy is a dynamic and fast growing professional subject all over the world including Bangladesh. Because of its enormous contribution to our health-care system, "Pharmacy" has always been a high (if not the highest) priority choice to the students coming for university education. Pharmacy graduates have the opportunity to serve in different areas of health care system including hospital pharmacy, clinical pharmacy, community pharmacy, industrial pharmacy, pharmaceutical marketing, research etc.

The Bachelor of Pharmacy degree course has been designed for students to acquire sufficient understanding of the principles, practices and techniques of the pharmaceutical sciences. After completion of the courses, students will acquire coordinated understanding, comprehensive knowledge and expertise in all disciplines of pharmacy practice and education

The degree of Bachelor of Pharmacy will be conferred by the university when a student will satisfactorily complete all the required courses offered to him/her over a period of four academic years. Each academic year is divided into two semesters.

Focus on Pharmacy Curriculum and Education:


Pharmacy graduates/ professional pharmacists play vital roles in different aspects of drugs and diseases. In the last few decades, the roles of pharmacist have been diversified from compounding and dispensing of medicines to ensure the safety, efficacy and rational use of drugs and to provide drug information to the patient.

The B. Pharm. course to be offered by respective private university should not be less than 160 credit hours and should not exceed 170 credit hours in total.

The curriculum may include non-pharmacy subjects as general education such as English, History, Bangladesh Studies, Bengali Literature & Culture, Moral & Ethics, Social Studies, Computer Science, Economics, Mathematics & Bio-Statistics etc.

All public and private universities should follow a standard unified curricula designed by the regulatory bodies, University Grants Commission and Pharmacy Council of Bangladesh as a minimum requirement.

The curriculum must be submitted both to the Bangladesh University Grants Commission (UGC) and Pharmacy Council of Bangladesh (PCB) for prior approval at the beginning of the courses.



Objectives of the Program:

The principal objectives of this curriculum are:

- 1) To impart scientific knowledge for the identification, formulations, preparation, standardization, quality control, safety uses of drugs & medicines and effective management of their distribution and sale.
- 2) To produce a skilled manpower to manage the affairs of hospital pharmacies, pharmaceutical industries, clinical pharmacy services, community pharmacy services, drug administration and other organizations in drug research, marketing, sales and administration.
- 3) To encourage research on different fields of pharmacy so as to develop newer techniques of formulation, quality control and standardization of drugs, other organizations in drug research, marketing, sales and administration.
- 4) To develop and propagate novel ideas with a view to nourish Pharmacy professionalism among the graduates.

Duration of the Course

Total duration of the Bachelor of Pharmacy (B. Pharm) course should generally be FOUR years full time for the private universities.

Number of Semesters in each academic year:

There will be two semesters only – Spring (January-June) & Fall (July – December) semester in each academic year.

Entry Requirements/Admission Criteria:

Students seeking admission to pursue the course for the degree of Bachelor of Pharmacy (B. Pharm) should have passed the S.S.C. & H.S.C. (or 'O' level & 'A' level) examinations in science group or equivalent degrees with at least GPA 3.0 in a scale of 5.0 without any additional subject.

Candidate must have a minimum aggregate GPA 6.50 in SSC/ "O" level or equivalent and HSC/ "A" level or equivalent examinations in a total scale of 10.0. In all levels the students must have to secure B grade (credit point 3.00) in chemistry and biology separately and a minimum GPA 2.0 in mathematics.

Foreign students must have passed 12 education years and got same grades in equivalent examinations from foreign recognized institutions will be eligible to get admission in any Private university as per rules and regulation of education and foreign ministry.

The student must to pass HSC/ "A" level or recognized equivalents with the following science subjects: Physics, Chemistry, Biology and Mathematics to qualify for admission. Admission should be based on competitive written test evaluations. In addition to written test, an oral test / interview may be taken for further assessment

Candidate must pass HSC/ "A" level or recognized equivalent examination in current year or one previous year

However candidates having no Mathematics at the HSC/ "A" level or recognized equivalents may be admitted, but they need to take an extra 3 (three) credits course on Mathematics other than offered syllabus relevant to B. Pharm. Curriculum

Number of Intake/ Seats per Semester:

If any Department is approved of 25 students per semester by the regulatory bodies, a general recommendation is that the Department should follow that directive strictly. In no circumstances the university will be allowed to admit more than two intakes per year, according to the semester and approved number of students/seats for admission by the regulatory bodies. Even no section with same strength of admission in parallel will be allowed.

However, Departments willing to admit more students should obtain prior approval from the UGC and Pharmacy Council of Bangladesh (PCB) simultaneously.

At the beginning the number of seats per semester would be determined by the Bangladesh University Grants Commission and Pharmacy Council of Bangladesh in accordance with the relevant facilities available in the Department after official judgment. The UGC and PCB will place particular emphasis on the availability of number of laboratory facilities with required instrumentals for four semesters or two academic years at least in that premise during opening.

Teachers/Faculty Members:

The faculty for teaching courses and guiding students in the program will be carefully chosen considering their academic record, teaching skills and research experience. Specialist faculty from other universities and other institutions within and outside the country can be engaged to conduct courses. Faculty with Ph.D degree in related fields may be given preference. They may be drawn from national and overseas resource pool.

1. At the beginning, a new Department of Pharmacy must have at least 4 full-time faculty members, of which 1 must be a Professor/Associate Professor.
2. The Head/ Chairman of the Department of Pharmacy should be a Pharmacy graduate and having post-graduate degree in Pharmacy from any recognized University/ Institution, preferably a Professor/ Associate Professor with at least 7 years of teaching experience in a recognized university.
3. For teaching pharmacy courses, all faculty members MUST be Pharmacy graduates and having post-graduate degrees.

Ratio of the faculties and students should be:

Professor : Associate Professor : Assistant Professor : Lecturer = 1 : 2 : 4 : 12.

Teacher - Student ratio should be at least 1 : 20, including adjunct/ part-time faculty, calculated on the basis of total students in the department enrolled.

Teaching/ Research Assistant(s) SHALL NOT be considered as faculty member(s).

Part-Time/ Adjunct Faculty Members

The appointment and qualifications of the part-time/ adjunct faculty members should be as per the rules and regulations of the University Grants Commission.

Faculty Members without Teaching Experience

Person(s) having no teaching experience at university level but possessing relevant adequate experience in Pharmaceutical Sector may be appointed as full or part-time faculty members for relevant subjects. But they must fulfill the following criteria:

1. He/She must be a pharmacy graduate with post-graduate degree(s) from an institution approved by the UGC and PCB and he/she must be registered with the PCB.
2. He/She must have at least 6 years of experience in Pharmaceutical Sector in the relevant department such as Production, Quality Control, Quality Assurance, Marketing, Hospital Pharmacy, Regulatory Affairs etc.

Faculty Members without Pharmacy Graduation

The university may also employ full time medical graduates (MBBS) having post-graduate degree(s) as teaching faculty for the following subjects:

Physiology, Pharmacology, Pathology, Anatomy and Disease Management etc

For non-pharmacy subjects, faculty members having post-graduate degree and teaching experience as per the guidelines of the University Grants Commission may be appointed.

Duration of a Semester:

The duration of a semester is SIX MONTHS including class tests, assignments, mid-term and final examination. The duration of a semester is eighteen weeks which may be used as follows

Classes (Theoretical and Practical)	15 weeks
Recess before examination	1 week
Semester final examination	2 weeks
Total	18 weeks

Course Pattern and Credit Structure:

The entire undergraduate program is covered through a set of theoretical courses, laboratory courses, fieldworks, assignment and project work. The total credit for core courses in Pharmacy education will be **160-170** credits including theoretical, practical, viva, project, training and credits for general education courses (20 -30 credits).

Assignment of Credits is as follows -

1. Theoretical Courses: Two lectures of 90 minutes (1.5hrs) per week. For 15 weeks total number of classes is 30. So, a course of 3 (Three) credits total class conduct hours will be 45 hours. And for a course of 2 (Two) credits total class conduct hours will be 30 hours. So for 15 hours class the credit point 1.0 will be calculated.
2. Laboratory/Field/Project Work: Credit for laboratory/field work usually will be half of the class hours per week per semester or 30 hrs. Each laboratory/field works will be counted as 1.0 (One) credit. Credits are also assigned to project and thesis work taken by students.

Oral Assessment:

After completion of two semesters the students should sit for an oral assessment of final examination of one academic year, which must be conducted in the presence of an external member as per UGC norms and it will carry 1.0 credit. So, for total four academic years four oral assessments will be conducted/arranged.

Distribution of Marks:

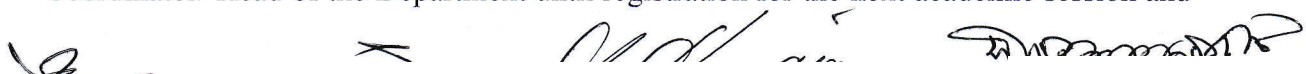
The total performance of a student in a given course will be based on a scheme of continuous assessment. For theoretical courses this continuous assessment will be made through homework, assignment, attendance, quizzes, etc. A mid semester examination should be of one and half hour duration and a semester final examination should be of two and half hours duration. The distribution of marks for a given course may be as follows:

I.	Assessment (class tests, assignments and attendance):	20%
II.	Mid Term:	30%
III.	Final Exam:	50%
Total:		100%

The assessment in laboratory/field work courses should be made through observation of the student at work in class, viva voce during laboratory hours and quizzes.

Examination Procedure

Examinations should be based on written, oral and practical assessments. Examination materials will be retained by the Controller of Examinations/ Course Director/ Coordinator/ Head of the Department until registration for the next academic session and



unless a grade appeal has been filed. All materials should be retained as long as an appeal is in progress.

There should be an Examination Committee to execute all activities related to an examination of each semester. Thus all the semesters will have separate Exam Committees.

Each Examination Committee will be constituted by the Academic Committee of the respective department and that should include one external member of the committee as UGC norms.

The Examination Committee will be constituted of 4 members where there will be a Chairman of the Exam Committee and 2 members nominated from amongst the Academic Committee members of the Department/ Institute; and one external member must be selected from public or private university as per UGC norms.

The Examination Committee will select examiners from a Panel of Examiners nominated by the Academic Committee. The panel will be constituted with all the existing teachers of the department and renowned personalities of the profession of pharmacy having at least a Master degree. UGC always prefer dual examiners system.

The Mid-Term Exam for each course will be conducted and evaluated by the respective Course Teacher. Term Final Exam of each theoretical course must be evaluated first by the Course Teacher as Internal Examiner and then by a 2nd Examiner nominated by the Examination Committee from amongst the approved Panel of Examiners. In case of variation of marks by over 20%, a 3rd Examiner will evaluate that particular theoretical answer script. Average of the two nearest marks will be tabulated as final mark.

For Mid-Term Exam, the respective Course Teacher of that course will submit a proposed Question Paper to the Examination Committee. In case of Term Final Exam, both the 1st and 2nd Examiners will submit their separate proposed Question Papers to the Examination Committee. The Examination Committee will finalize the Question Papers for each course after moderation by the said Committee. Final tabulation of marks will be done by 2 Tabulators nominated by the Examination Committee. All these activities will be strictly confidential.

Grading System:

For uniformity all private university must have to follow the University Grants Commission (UGC) grading system.

Letter grades and corresponding grade points are shown below:


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Numerical Grade	Grade	Grade Point
80% or above	A+	4.0
75%-79%	A	3.75
70%-74%	A-	3.5
65%-69%	B+	3.25
60%-64%	B	3.00
55%-59%	B-	2.75
50%-54%	C+	2.5
45%-49%	C	2.25
40%-44%	D	2.00
Less than 40%	F	0.00
	I	Incomplete
	W	Withdrawn

Note: Each course has a number of credits, which describes its corresponding weights. Grade A will be considered as exceptional performance, Grade B will be considered as very good performance, Grade C will be considered as satisfactory performance and Grade D will be considered as minimally acceptable performance, Grade F will be considered as unacceptable performance, Grade I will be considered as Incomplete and grade W will be considered as withdrawn

Performance Evaluation:

The performance of a student will be evaluated in terms of semester grade point average (GPA) and cumulative grade point average (CGPA) which is the grade average for all the semesters. To be awarded a degree a student has to obtain a minimum Cumulative Grade Point Average (CGPA) of 2.5.

Students who will fail to maintain this minimum rate of progress will not be in good standing. This can happen when one or more of the following conditions exist:

Semester GPA falls below 2.5 or

Cumulative GPA falls below 2.5

All such students can make up deficiencies in GPA and credit requirements by completing courses in next semester(s) and backlog courses, if there is any, with better grades which should not be more than 65-69% (in letter Grade B+).

Registration for the second and subsequent semesters:

A student is normally required to earn at least 8 credits (out of 11 to 16 credits) and 12 credits (out of 17 to 22 Credits) of total credits in a semester. At the end of each semester, the students will be classified into one of the following three categories:

Category-1:

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Students who have passed all the courses prescribed for the semester belong to this category. A student of Category-1 is eligible for registration for all courses prescribed for the next or following semesters.

Category-2:

The students who have earned at least 8 credits in a semester, do not belong to Category-1, are advised to take at least one course less in the following semester than those offered for students of Category-1, subject to the condition that, they will register for such backlog courses as prescribed by the respective adviser.

Category-3:

Students who have failed to earn 8 credits in a semester belong to this category. Students of this category are advised to take at least two courses less in the following semester than those offered for students of Category-1, subject to the registration for a minimum of 10 credits. However, they are required to register for such backlog courses as would be prescribed by the adviser.

Note: 1. Absence in the final examination held at the end of each academic semester will result in F grades.

1. A student must complete the prerequisite courses (where applicable) to take the subsequent courses. Two courses of same subjects (e.g. Physiology-1 and Physiology-II) are not allowed to register in a single semester.
2. A student will not be promoted to next semester, if he/she obtains F grade in more than two theory courses or remain absent in more than one theory course.
3. In no circumstances the students will be allowed to appear for retake examination


Attendance:

All students are expected to attend classes regularly. The UGC believes that regular attendance is essential for effective learning. A student is required to attend at least 75% of all the classes held in every course in order to sit for the final examination.

Absence during semester:

A student shall not be absent from quizzes, tests, assignment, mid semester examinations etc., during the semester. Such absence will naturally lead to reduction in points/marks, which shall count towards the final grade. Even may not be allowed to sit for the specific course final exam.

Conduct and Discipline:


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9

A student should conform to the highest standard of discipline and shall conduct herself/himself within and outside the premises of the university in a manner befitting the student of a university of national importance. He/she shall show due courtesy and consideration to the teachers and other employees of the university and render sincere co-operation to his/her fellow students. The students must also pay due attention and courtesy to the visitors. A student who will be involved in any immoral activities or indiscipline activities, fanatic activities or subversive activities to the state he/she may be rusticated without prior notice.

In-plant training:

After successful completion of eight semesters, students have to visit or participate in in-plant training in Pharmaceutical Industries and Institutes in Bangladesh or abroad and have to submit a report on such training.

Infrastructure for the Department of Pharmacy

Classrooms

There should be adequate classrooms (initially at least 4 dedicated classrooms) for the Department of Pharmacy, with a seating capacity of 50 students in each. With the increment of the students, sufficient classrooms should be added.

The classrooms must be hygienic, well-ventilated, wholesome and suitable for brainstorming comfortably. All the classrooms should be equipped with OHP, multimedia, white board etc. Sound system may be provided where necessary.

Laboratory Facilities

The Department of Pharmacy shall have AT LEAST the following laboratory facilities, each adequately equipped with instruments, equipment, glassware, chemicals, reagents and Lab Officers/ Lab Attendants to perform all the experiments defined in the curricula:

- (i) Inorganic and Physical Pharmacy Laboratory
- (ii) Pharmacognosy and Phytochemistry Laboratory
- (iii) Organic Pharmacy & Medicinal Chemistry Laboratory
- (iv) Pharmaceutical Analysis Laboratory
- (v) Physiology & Pharmacology Laboratory
- (vi) Pharmaceutical Microbiology Laboratory
- (vii) Pharmaceutical Technology & Cosmetology Laboratory
- (viii) Biopharmaceutics & Pharmacokinetics Laboratory

(As a guide to construct various laboratories with proper facilities, a suggested list of necessary instruments can be found in the webpage of Pharmacy Council of Bangladesh)

COURSE CURRICULUM
For
Bachelor of Pharmacy Program
(for Private Universities in Bangladesh)

The undergraduate program of Pharmacy has to follow the course schedule given below (including core courses 140 credits minimum and general education courses 20-30 credits). The letter prefix in any course number indicates the discipline/subject offering the course viz. GED for general education courses such as computer sciences, English, etc, and PHR for Pharmacy. The first digit in the number indicates the year for which the course is intended, the second digit indicates the semester assigned by the department and the last two digits are assigned for individual courses. The course and course code may be changed on the basis of distribution in different years offered by the university.

Subject Code	Name of Subject	Credit
PHR 1101	Introduction to Pharmacy	3
PHR 1102	Inorganic Pharmacy	3
PHR 1103	Organic Pharmacy	3
PHR 1204	Physical Pharmacy-I	3
PHR 1205	Pharmacognosy-I	3
PHR 1206	Physiology-I	3
PHR 1207	Basic Anatomy	2
PHR 2110	Physical Pharmacy-II	3
PHR 2111	Pharmacognosy-II	3
PHR 2112	Basic Pharmaceutics	3
PHR 2113	Physiology-II	3
PHR 2114	Pharmaceutical Microbiology-I	3
PHR 2216	Pharmaceutical Analysis-I	3
PHR 2217	Pharmaceutical Microbiology-II	3
PHR 2218	Pharmacology-I	3
PHR 2219	Pharmaceutical Technology-I	3
PHR 3121	Biochemistry & Molecular Biology	3
PHR 3122	Pharmaceutical Analysis-II	3
PHR 3123	Pharmacology-II	3
PHR 3124	Medicinal Chemistry-I	3
PHR 3125	Pharmaceutical Technology-II	3
PHR 3227	Hospital & Community Pharmacy	3
PHR 3228	Pharmaceutical Biotechnology	3
PHR 3229	Biopharmaceutics & Pharmacokinetics-I	3
PHR 3231	Medicinal Chemistry-II	3
PHR 3232	Pharmaceutical Technology-III	3
PHR 4134	Pharmaceutical Engineering	3
PHR 4135	Biopharmaceutics & Pharmacokinetics-II	3
PHR 4136	Pharmaceutical Quality Control and Validation	3

PHR 4137	Medicinal Chemistry-III	3
PHR 4139	Pharmaceutical Marketing and Management	3
PHR 4241	Cosmetology	2
PHR 4242	Pharmaceutical Regulatory Affairs	3
PHR 4243	Food Technology, Nutraceuticals and Alternative Medicines	3
PHR 4244	Pharmacology-III	3
PHR 4246	Pharmaceutical Dispensing	2
PHR 4247	Disease Pathology	2
PHR 4248	Pharmaceutical Packaging Technology	3
PHR (12-,22-,32-,42-)	Oral Assessment-(I-IV)	4
PHR 4140	Project	3
PHR 4248	In-plant Training	1
	Total	
TOTAL CORE CREDITS FOR THEORY		118

Practical Courses		
PHR 1102L	Inorganic Pharmacy Laboratory	1
PHR 1103L	Organic Pharmacy Laboratory	1
PHR 1204L	Physical Pharmacy-I Laboratory	1
PHR 1205L	Pharmacognosy – I Laboratory	1
PHR 1206L	Physiology-I Laboratory	1
PHR 2110L	Physical Pharmacy -II Laboratory	1
PHR 2111L	Pharmacognosy-II Laboratory	1
PHR 2113L	Physiology-II Laboratory	1
PHR 2114L	Pharmaceutical Microbiology Lab	1
PHR 2216L	Pharmaceutical Analysis-I Laboratory	1
PHR 2218L	Pharmacology-I Laboratory	1
PHR 2219L	Pharmaceutical Technology-I Laboratory	1
PHR 3122L	Pharmaceutical Analysis-II Laboratory	1
PHR 3123L	Pharmacology-II Laboratory	1
PHR 3124L	Medicinal Chemistry-I Laboratory	1
PHR 3125L	Pharmaceutical Technology-II Laboratory	1
PHR 3229L	Biopharmaceutics & Pharmacokinetics-I Laboratory	1
PHR 3231L	Medicinal Chemistry-II Laboratory	1
PHR 3232L	Pharmaceutical Technology-III Laboratory	1
PHR 4135L	Biopharmaceutics & Pharmacokinetics-II Laboratory	1
PHR 4137L	Medicinal Chemistry-III Laboratory	1
PHR 4241L	Cosmetology Laboratory	1
PHR 4244L	Pharmacology-III Laboratory	1
	Total Credits	23


General Education Courses:

<u>General Education (GED)</u>		
<u>Code</u>	<u>Course name</u>	<u>Credit</u>
COM 1110	Introduction to Computers	3
SAT 4245	Biostatistics	3
MAT 1208	Fundamentals of Mathematics	3
GED 1120	English/Introduction to Composition	3
GED 1130	Bangladesh studies	3
GED 1140	Advanced Reading & Writing Strategies	3
GED 1150	Basic Economics and Pharmacoeconomics	3
GED 1160	Basic Accounting	3
GED 1170	Behavioral , Moral and Ethical studies	3
GED 1180	Leadership Skill Development	3
GED 1190	Public Speaking	3
GED 1200	Bengali Language, Literature & Culture	3
GED 1210	Emergence of Bangladesh	3
SOC 1010	Introduction to Sociology	3
GEO 2050	Introduction to Bangladesh Geography	3
ANT 1010	Introduction to Anthropology	3

Total Credits to be Completed for Four Years Program

Theory	Core Course/oral/project/training	118
Practical	On Course basis	23
General Education	Offered by the university	27
	Total Credits	168

* The total credit for the courses in Pharmacy education will be **160-170** credits including theoretical, practical, viva, project, training; and credits for general education courses will be (20 -30 credits).


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