

# Faculty of Pharmacy

## Pharm-D

(Program Mission, Objectives and Outcomes)

**Standard 1-1: The program must have documented measurable objectives that support faculty / college and institution mission statements**

### Mission Statement for Pharm-D

To face the challenges of the 21st century, the Faculty of Pharmacy is positioned for leadership in education, research, public service and patient care for guiding and serving the pharmaceutical care needs of society -- extending from the people of Pakistan to the global community. To be recognized as leaders, we do: Create educational experiences in all of our programs that support professionalizing our students and prepare them for career adaptability/flexibility in a changing research and practice environment.

### Program objectives

Pharm-D

1. To provide students with strong foundation in theoretical as well as practical pharmaceutical sciences.
2. To provide students with skills to design and develop different dosage forms of drugs.
3. To enable students to analyze patient conditions and to recommend treatment strategy.
4. To help students to improve their oral and written communication skills.
5. To develop team work spirit and to enable them to work in professional judgment required areas like in Industry, public health sector, Hospitals etc.
6. To invoke concrete concepts of modern drug treatment strategy.

7. To provide students with knowledge relevant to growth opportunities in the subject area professionally and academically.
8. The impact of Pharmacy practice on society and moral values.
9. To evoke importance of religion and Islamic education in health improvement.
10. To provide creative environment for the students to enhance their hidden potentials.

Objective	How measured	When measured	Improvement identified	Improvement made
1,2,3,5,8,10	Student Course Evaluation Questionnaire	2010	Lack of learning resources, lack of practical material, Shortage of books.	
4,6,7,9	Survey of Graduating Students	2010	<ul style="list-style-type: none"> <li>➤ Program objectives achievements need more attention</li> <li>➤ Lack of chemicals to perform practical work</li> </ul>	

**Standards1-2: The program must have documented outcome for graduating students .It must be demonstrated that the outcome support the program objective and that graduating students are capable of performing these outcomes.**

### **Program Outcomes**

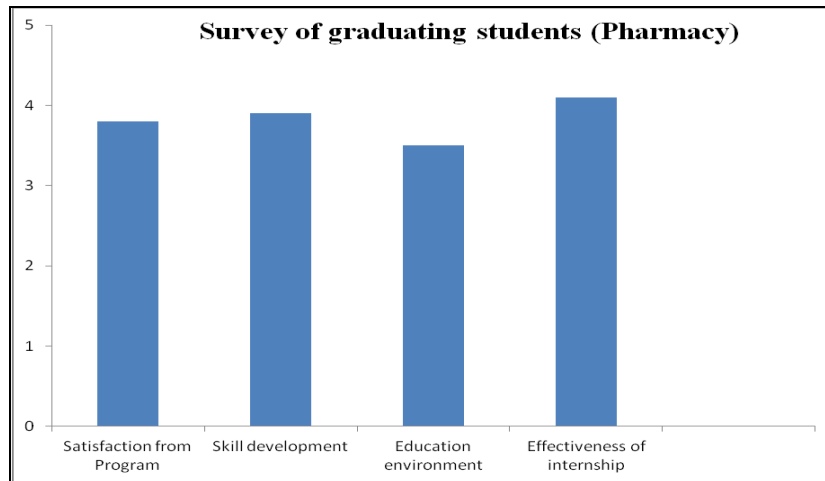
Program objectives will result in following outcomes:

1. Students are able to apply theoretical knowledge into practical.
2. Students are able to run the project individually.
3. Students are able to analyze and produce the solution to problems.
4. Students be able to communicate effectively in written and oral
5. Students are able to work as team member.
6. Students are able to utilize the hidden potentials.
7. Students are able to grow themselves in the market.
8. Students are able to apply management skills.
9. Students shall have sound knowledge about their history and religious culture.

Program Objectives	Program Outcomes								
	1	2	3	4	5	6	7	8	9
1	√		√						
2		√							
3			√						
4				√					
5					√				
6						√			
7							√		
8								√	
9									√

**Standard 1-3: The results of programs assessment and the extent to which they are used to improve the program must be documented**

After the assessment of Graduating students' survey, the strength and weaknesses identified.



● **Areas for improvement**

- Program objective achievement need more attention
- Infrastructure
- Lack of chemicals for practical work

- Oral & Written communication skills

**Describe the actions taken based on the results of periodic assessments**

Actions to be taken on the recommendations of AT visits

- **Strength and weakness of the program**

**Strengths:**

- Program smoothness
- Independent thinking and teamwork
- Skill Development
- Education Environment

**Weaknesses:**

- Program objective achievement needs more attention
- Lack of practical work material
- Oral & Written Communication Skill

- **List future development plan for the program**

- New and advanced curriculum
- Stress on Research Work
- Latest Labs Equipments

**Standard 1-4: The department must assess its overall performance periodically using quantifiable measures.**

Present students enrolment (Pharm-D)

Years	No of students	No of graduate students
2011	144	138
2010	136	129
2009	120	115
2007-08	176	176
2006	119	114

## Criterion 2: Curriculum Design & Organization

- A. Title of Degree Program: Pharm-D**
- B. Definition of credit hour:** One credit hour means a class of one hour per week for one term/semester. One term means 15 weeks continuous duration program. However in case of Lab work, three hours Lab work means one credit hour.
- C. Degree Plan:** The table-1 shows the course division of the program.
- D. Curriculum breakdown:** No breakdown available for the courses. Needs improvement

### Figure: 1

Following matrix links courses in the program to program outcomes

	Courses	Program Outcomes								
		1	2	3	4	5	6	7	8	9
<b>1<sup>st</sup> Prof: Courses</b>										
	Physical Pharmacy (Pharmaceutics 1)		√							
	Pharmaceutical Organic Chemistry		√							
	Physiology/Histology		√							
	Pharmaceutical Biochemistry		√							
	Anatomy			√						
	Maths/Statistics				√					
<b>2<sup>nd</sup> Prof: Courses</b>										
	Pharmaceutical Preparations (Pharmaceutics 2)	√								
	Microbiology	√								
	Pharmacology 1	√								
	Pharmacognosy 1	√								
	Pakistan and Islamic Studies	√								
<b>3<sup>rd</sup> Prof: Courses</b>										
	Dispensing and Community Pharmacy	√								
	Pharmacology 2	√								
	Pharmaceutical Analytical Chemistry	√								

	Pharmacognosy 2	√											
		√											
<b>4<sup>th</sup> Prof: Courses</b>													
	Hospital Pharmacy	√											
	Biopharmaceutics	√											
	Quality Control	√											
	Industrial Pharmacy	√											
		√											
<b>5<sup>th</sup> Prof: Courses</b>													
	Pharmaceutical Technology	√											
	Forensic Pharmacy	√											
	Marketing and Management	√											
	Medicinal Chemistry	√											
	Computer Applications in Pharmacy	√											

Table 1: Courses versus program outcomes

**Standard 2-2: Theoretical background, problems analysis and solution design must be stressed within the program's core material.**

<b>Automation and Control Concentration (Regular Stream)</b>	
<b>Elements</b>	<b>Pharm-D Courses</b>
Theoretical	Physical Pharmacy (Pharmaceutics-1), Pharmaceutical Preparations (Pharmaceutics 2), Dispensing and Community Pharmacy (Pharmaceutics 3), Hospital Pharmacy (Pharmaceutics 4), Clinical Pharmacy 1(Pharmaceutics 5), Quality Control (Pharmaceutics 6), Industrial Pharmacy (Pharmaceutics 7), Biopharmaceutics (Pharmaceutics 8), Clinical Pharmacy 2 (Pharmaceutics 9), Pharmaceutical Technology (Pharmaceutics 10), Pharmaceutical Organic Chemistry, Pharmaceutical Biochemistry, Analytical Chemistry, Medicinal Chemistry, Physiology/Anatomy, Histology, Microbiology, Pharmacognosy 1, Pharmacology 2, Pharmacognosy 2, Pathology, Computer Applications in Pharmacy, Pakistan/Islamic studies, Mathematics/Statistics
Problem Analysis	For all subjects except Pakistan/Islamic studies
Solution	Concepts of Pharmacy, Solutions, Colloids, Pharmaceutical processes, Nomenclature of

Design	Organic compounds, Information about drug synthesis, Rearrangement reactions, Substitution reactions, Basic Biochemistry, Biochemical reactions, carbohydrates, lipids and Proteins digestion and break down, Enzymes, Vitamins, Human Physiology and Anatomy, Basic and grass Physiology, Stereo-Chemistry & Reaction mechanism.
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Table 2: Fulfilling requirements in standard 2-2

**Standard 2-3: The curriculum must satisfy the mathematics and basic sciences requirements for the program as specified by the respective accreditation body**

Applications of mathematics offer in the Pharm-D to solve the problem of mathematical calculations.

**Standard 2-4: The curriculum must satisfy the major requirements for the program as specified by the respective accreditation body**

The curriculum in the program is fully satisfied the major requirements and objectives of the program.

**Standard 2-5: The curriculum must satisfy humanities, social sciences, arts, ethical, professional and other discipline requirements for the program as specified by the respective accreditation body**

Table 3 shows how the Pharm-D program satisfies requirements in standards 2-3, 2-4 and 2-5. It's clear from the table that all requirements are met.

Pharm-D	Mathematics/Statistics		Pharmacy Topics		Humanities and social Sciences	
			Core			
	Required	Present	Required	Present	Required	Present
	2	2	26	26	2	2

Table.3: Standard 2-3, 2-4, 2-5 requirements

**Standard 2-6: Information technology component of the curriculum must be Integrated throughout the program**

Information technology component is the part of curriculum which delivers the knowledge of different software and computerized lab equipments. This area fulfills the requirements.

**Standard 2-7: Oral and written communication skills of the students must be developed and applied in the program**

Oral and written communication has been given importance in the program. Students are to take following English courses to improve their communication skills:

- English (Study Skills)
- Communication Skills

Students' skills in oral and written communication are not satisfactory, its need improvement. Action planned for the improvement.

**Criterion 3: LABORATORIES AND COMPUTING FACILITIES**

**Laboratory No-1:**

Laboratory Title	M Phil. PhD Research Laboratory
Location and area	Faculty of Pharmacy, Gomal University Dera Ismail Khan
Objectives	This laboratory is used for the purpose of research in the field of Pharmacy with special reference to M Phil & Ph. D purposes.
Adequacy for instruction	All the scholars are supposed to be well aware of the safe & effective use of the equipment's. Moreover the laboratory assistants are available during working hours for providing assistance in the use of different machines.
Courses taught	<ul style="list-style-type: none"> <li>• Pharmaceutics</li> <li>• Pharmaceutical Chemistry</li> <li>• Pharmacognosy</li> <li>• Basic Medical Sciences</li> </ul>
Major Apparatus	<ol style="list-style-type: none"> <li>1. Shaking incubator By Germany</li> <li>2. Shell lab USA</li> <li>3. Franz Diffusion Cell USA</li> <li>4. Shaking water Bath USA</li> <li>5. Dissolution Apparatus ( pharma test)</li> </ol>



	6. Jasco UVIDEV-610 Japan 7. SHIMAZDU Japan 8. Dc-60 Shimazdu japan 9. Horiba Particle size LA-300 japan 10. Density Meter (Metler Toledo DE-40) JAPAN 11. Micro Balance Mx-5 Mettler Trledo Japan 12. Vertical Laminar Flow cabinet for product protection (ESco) SINGAPUR 13. Magnetic stirrer HUNGARY 14. Sorptomatic thermo electron corp ITALY 15. Rheometer GERMANY 16. Refractive Meter JAPAN
Major Equipment	1. Blood Bank Refrigerator (sanyo) Japan 2. Refrigerator PEL for chemicals Lahore Pakistan 3. Analytical Balance (Shimazdu Ax-200) japan
Safety Regulations	All the equipment's installed are provided with SOPs provided by the manufacturer. The lab assistance provides full time assistance to the scholars for the safe and effective use of machines.

### Laboratory No-2:

Laboratory Title	Laboratory of Basic Medical Sciences
Location and area	Faculty of Pharmacy, Gomal University Dera Ismail Khan
Objectives	Practical performance Study of different human body parts Preparation & study of different fluids of human beings To study the preparation, effects and nature of different drugs.
Adequacy for instruction	All the teachers are ethically bound to give adequate instructions to the students for the safe & effective use of the equipment's. Moreover the laboratory assistants are available for this job during the working hours.
Courses taught	Basic Medical Sciences subjects Pharmacology Anatomy Physiology
Major Apparatus	Autoclave Model No.7170-China 1N Autoclave Model No.25X, Made USA 1N Autoclave Pak Made 02N Blood Pressure Apparatus 28N (27 un-serviceable) Balance Electronic Type, 2842, Germany Centrifuge 1N Colony Counter L-06800/005 1N Balance Electronic Type 1103 1N Germinator (seed)Electric NO.111-E JAPAN 1N

	<p>Hematocrit Centrifuge No. 67980 1N  Kymograph Electric ( Pak made) 02N  Kymograph Electric ( UK made) 03N  Microscope Electric Model 41-400( china) 04N  Microscope Electric Model L-2000 02N  Microscope ERMA (Electric) 01N  Microscope (Electric) No 005509,32557 02N  Microscope ERMA (Sunlight) 02N  Microscope (Projector) P-4331 01N  Microscope (Electric) Binocular 03N  Microscope (Electric) serial No.006205 01N  Microscope (Electric) china 01N  Organ Bath 02N  PH-Meter, Digital, Korea, Mod: 2100 01 (un-serviceable)  Skelton (Human) England 01N  Students Tissue Bath 02N (broken)  Sterilization set ( steel) 05N</p>
Major Equipment	<p>Oven Type B-10 Memmert,070c, Germany  Oven (incubator) 37c' No 866880 01N  Oven Type Memmert 01N  Deep Freezer British Made 1N(un-serviceable)  Human weighing Machine 1 (un-serviceable)  Refrigerator ( Santo)</p>
Safety Regulations	<p>All the equipment's installed are provided with SOPs provided by the manufacturer. The lab assistance provides full time assistance to the scholars for the safe and effective use of machines.</p>

### Laboratory No-3:

Laboratory Title	Laboratory of Pharmacognosy
Location and area	Faculty of Pharmacy, Gomal University Dera Ismail Khan
Objectives	<ul style="list-style-type: none"> <li>● Practical performance</li> <li>● Extraction of different active components from the crude drugs</li> <li>● Macroscopic examination of various commonly used crude drugs</li> <li>● Separation techniques ( chromatography)</li> </ul>
Adequacy for instruction	<p>All the scholars are supposed to be well aware of the safe &amp; effective use of the equipment's. All the teachers are ethically bound to give adequate instructions to the students for the safe &amp; effective use of the equipment's. Moreover the laboratory assistants are available for this job during the working hours.</p>
Courses taught	<ul style="list-style-type: none"> <li>● Practical work of Pharmacognosy-1</li> <li>● Practical work of Pharmacognosy-2</li> </ul>

Major Apparatus	<ol style="list-style-type: none"> <li>1. Balance Model SN 9793 china 01N</li> <li>2. Balance Sartorius (Electric) 01N</li> <li>3. Centrifuge Machine china 01N</li> <li>4. Balance Rough 01N</li> <li>5. Cork. Barer Machine 01N</li> <li>6. Electric Water Bath 02</li> <li>7. Hair Dryer 04</li> <li>8. Grinder Machine 01N</li> <li>9. Heating Mentel 500 mlN</li> <li>10. Hot flate 01N</li> <li>11. Microscope Model XSB-01 (sunlight)</li> <li>12. Microscope Model M 1610AX-9 1N</li> <li>13. Microscope ERMA (Japan) 01N</li> <li>14. Microscope Macrotone, whit blade ( Erma) 01N</li> <li>15. Magnetic stirrer 01N</li> <li>16. Rotary Evaporator N type-1 Liter Japan 04N</li> <li>17. U V Lamp China 02N</li> <li>18. Microscope Model L 101 12N</li> <li>19. Microscope Electric Model No X92-70 ACNIBN 02N</li> <li>20. Dissection Microscope 06N</li> <li>21. Heating Mentle 500 ml England 01N</li> </ol>
Major Equipment	<ol style="list-style-type: none"> <li>1. Vacuum Pump 03N</li> <li>2. TLC Applicator 03N</li> <li>3. Aspirator 03N</li> <li>4. Oven Germany 01N</li> <li>5. Draying Oven Germany 02N</li> <li>6. Refrigerator PEL 01N</li> </ol>
Safety Regulations	All the equipment's installed are provided with SOPs provided by the manufacturer. Teacher along with lab assistant is responsible for maintenance & development of the safety regulations.

#### Laboratory No-4:

Laboratory Title	Laboratory of Pharmaceutical Chemistry
Location and area	Faculty of Pharmacy, Gomal University Dera Ismail Khan
objectives	<ul style="list-style-type: none"> <li>• To study the chemical nature of drugs</li> <li>• Identification test of different crude drugs</li> <li>• To study the medicinal importance chemical substances.</li> </ul>
Adequacy for instruction	All the scholars are supposed to be well aware of the safe & effective use of the equipment's. All the teachers are ethically bound to give adequate instructions to the students for the safe & effective use of the equipment's. Moreover the laboratory assistants are available for this job during the working hours.
Courses taught	<ul style="list-style-type: none"> <li>• Pharmaceutical Chemistry subjects</li> </ul>

	<ul style="list-style-type: none"> <li>○ Organic Chemistry</li> <li>○ Biochemistry</li> <li>○ Instrumentation</li> <li>○ Medicinal chemistry</li> </ul>
Major Apparatus	<ol style="list-style-type: none"> <li>1. Balance rough 1N</li> <li>2. Centrifuge 1N</li> <li>3. Checker machine 1N</li> <li>4. Centrifuge ( china)</li> <li>5. Distillation apparatus (water-still) Germany 1N</li> <li>6. Electric chamber 1N</li> <li>7. Feed Transfer unit 1N</li> <li>8. Flame photometer 1N</li> <li>9. Vactor measure apparatus</li> <li>10. Heat plate electric 2N</li> <li>11. Heating mantle 2N</li> <li>12. Micro distillation 4N</li> <li>13. Melting point apparatus 2N</li> <li>14. Oven 1N</li> <li>15. Paper chromatography 1N</li> <li>16. P H meter 1N</li> <li>17. U V Spectro photo meter 1N</li> <li>18. Stopwatch</li> <li>19. Thermostat water bath 1N</li> <li>20. Water Both Electrical 1N</li> </ol>
Major Equipment	<ol style="list-style-type: none"> <li>1. Refrigerator 1N</li> <li>2. Vacuum oven 1N</li> <li>3. Furnace 1N</li> <li>4. Distill water plant 1N</li> <li>5. Dispensing balance 1N</li> </ol>
Safety Regulations	All the equipment's installed are provided with SOPs provided by the manufacturer. The lab assistance provides full time assistance to the scholars for the safe and effective use of machines.

#### Laboratory No-5:

Laboratory Title	Laboratory of Pharmaceutics-1
Location and area	Faculty of Pharmacy, Gomal University Dera Ismail Khan
objectives	<ul style="list-style-type: none"> <li>● Practical Demonstration</li> <li>● Introduction to the various equipment's used in the pharmaceutical processes.</li> <li>● Preparation of different Dosage form</li> <li>● To study the different equipment's in the pharmaceutical industry</li> </ul>

	<ul style="list-style-type: none"> <li>• To study &amp; perform the quality control parameters for the medicine.</li> <li>• Clinical aspects of drugs.</li> </ul>
Adequacy for instruction	All the scholars are supposed to be well aware of the safe & effective use of the equipment's. All the teachers are ethically bound to give adequate instructions to the students for the safe & effective use of the equipment's. Moreover the laboratory assistants are available for this job during the working hours.
Courses taught	<ul style="list-style-type: none"> <li>• Pharmaceutics subjects <ul style="list-style-type: none"> <li>○ Bio pharmaceutics</li> <li>○ Industrial pharmacy</li> <li>○ Quality control</li> <li>○ Clinical pharmacy</li> </ul> </li> </ul>
Major Apparatus	<ol style="list-style-type: none"> <li>1. Autoclave (automatic) hungry 01</li> <li>2. Cube mixer 01</li> <li>3. Calculator scientific 02</li> <li>4. Electronic Water Bath</li> <li>5. Gallan kamp bath 01</li> <li>6. Electronic balance (3 kg) 01</li> <li>7. Electronic balance (160g) 01</li> <li>8. Electronic balance (500g) 01</li> <li>9. Electronic balance (max=120) 01</li> <li>10. Electronic water bath 01</li> <li>11. Emulsifier 9 homogenizer)</li> <li>12. Fraction collator 01</li> <li>13. Friability tester Germany 01</li> <li>14. Hardness tester</li> <li>15. Hair drier 01</li> <li>16. Heating mental England 01</li> <li>17. Hot plate 01</li> <li>18. Ionizer 01</li> <li>19. Magnetic stirrer 03 01</li> <li>20. Moisture determination balance</li> <li>21. PH meter 02</li> <li>22. Paper chromatography set 01</li> <li>23. Pyrogen test apparatus Pak 01</li> <li>24. Sustained release dissolution apparatus German 01</li> <li>25. Shaking Machine 01</li> <li>26. Sieves set 02</li> <li>27. Tablet machine Germany</li> <li>28. Thin layer chromatography set 01</li> <li>29. Tablet counter ledle 50 holes Germany 01</li> <li>30. Tablets hardness tester Germany 01</li> <li>31. Vacuum pump 02</li> <li>32. Net mixer Pak 01</li> <li>33. Water quality checker 01</li> </ol>

	34. Water still Germany 01 35. Dissolution tester Germany 01 36. Disintegration tester Germany 01
Major Equipment	1. Capsule filler Pakistan 01 2. Oven Germany 02 3. Suppository tester Germany 01 4. Suppository Moulds Germany 01
Safety Regulations	All the equipment's installed are provided with SOPs provided by the manufacturer. The lab assistance provides full time assistance to the scholars for the safe and effective use of machines.

### Laboratory No-6:

Laboratory Title	Laboratory of Pharmaceutics -2
Location and area	Faculty of Pharmacy, Gomal University Dera Ismail Khan
objectives	<ul style="list-style-type: none"> <li>• Practical Demonstration</li> <li>• Introduction to the various equipment's used in the pharmaceutical processes.</li> <li>• Preparation of different Dosage form</li> <li>• To study the different equipment's in the pharmaceutical industry</li> <li>• To study &amp; perform the quality control parameters for the medicine.</li> </ul>
Adequacy for instruction	All the scholars are supposed to be well aware of the safe & effective use of the equipment's. All the teachers are ethically bound to give adequate instructions to the students for the safe & effective use of the equipment's. Moreover the laboratory assistants are available for this job during the working hours.
Courses taught	<ul style="list-style-type: none"> <li>• Subjects of pharmaceutics <ul style="list-style-type: none"> <li>○ Physical pharmacy</li> <li>○ Pharmaceutical preparation</li> <li>○ Dispensing</li> </ul> </li> </ul>
Major Apparatus	1. Balance Sartorius 200g China 01 2. Balance small size China 01 3. Balance Maurta capacity 200g China 01 4. Centrifuge type H-20 01 5. Digital brook field 01 6. Electric water bath 6-hole 01 7. Electric water bath 4-hole 01 8. Opascope 01 9. PH meter Model -7 England 01 10. Stop watch USSR 03

	11. Rotary vacuum evaporator 02
Major Equipment	<ol style="list-style-type: none"> <li>1. Analytical balance China 01</li> <li>2. Triple beam weighing balance OHAUS 01</li> <li>3. Ultrasonic water bath Germany 01</li> <li>4. Analytical balance China 01</li> <li>5. OVEN Germany 01</li> </ol>
Safety Regulations	All the equipment's installed are provided with SOPs provided by the manufacturer. The lab assistance provides full time assistance to the scholars for the safe and effective use of machines.

**Standard- 3-1: (Lab manuals/documentation/instruction for experiments must be available and readily accessible to faculty and students.**

Lab manuals are available for each lab but no rules and regulations for safety are available. No first aid box in case of emergency. All the documented instructions for lab experiments are available to both students and faculty members. The safety regulations and first aid box will be considered in implementation plan.

**Standard 3-2: There must be adequate support personal for instruction and maintaining the computing laboratories**

Lab Assistants and attendants help in conduction the Lab activities; each lab has a technician, with sounds skills and technologies.

**Standard 3-3: The university computing infrastructure and facilities must be adequate to support programs objectives.**

Computer lab is established and equipped with computers for M.Phil/PhD students, but no access to undergrad students to take benefits from it. Most of the Computers are out of order (Not in working conditions). The internet Lab facility in the department needs improvement to fulfill the requirements of e-learning.

## **Criterion 4: Student Support and Advising**

**Standard 4.1: Courses must be offered with sufficient frequency and number for students to complete the program in a timely manner.**

All the courses are first discussed by departmental academic committee. The recommendations are then discussed in the Board of Studies meeting comprising of some senior professors of the university and experts of curriculum from other universities and affiliated colleges. The recommendations of this board are further submitted to Academic committee for approval and onward submission to the syndicate. In this way the course and the curriculum passes and screens through a number of levels.

**Standard 4-2: Courses in the major areas of study must be structured to ensure effective interaction between student, faculty and teacher assistants.**

No proper procedure to assign the responsibility to structure courses and to maintain the consistency of contents. Improvement needs in this area to fulfill the requirements.

**Standard 4-3 Guidance on how to complete the program must be available to all students and access to academic advising must be available to make course decisions and careers choices.**

All the Faculty members are there to help students. Pharmaceutics Department Faculty members arranges visits to different Pharmaceutical Industries and Pharmacognosy Department Faculty members are responsible for arranging visits to Hilly Areas of Pakistan for collection of medicinal plants.



## **Criterion 5: Process Control**

**Standard 5-1: The process by which students are admitted to the Program must be based on quantitative and qualitative criteria and clearly documented. The process must be periodically evaluated to ensure that it is meeting its objectives.**

A very transparent system for admission in Pharm-D is present. Test (Conducted by Academic Section of the University) and interview is taken for admission. Admission in this program based on the following selection criteria.

1. Candidate must have passed in at least 2<sup>nd</sup> division.
2. Candidate must have Pre-medical in F.Sc.
3. Merit formula:

$$\text{SSC \%} \times 1 = X$$

$$\text{HSSC \%} \times 2 = Y$$

$$\text{Total Academic \%} = X+Y / 3$$

$$\text{Academic \%} \times 0.6 = A$$

$$\text{Test \%} \times 0.4 = B$$

$$\text{Final Merit} = A+B$$

**Standard 5-2: The process by which students are registered in the program and monitoring of students progress to ensure timely completion of the program must be documented.**

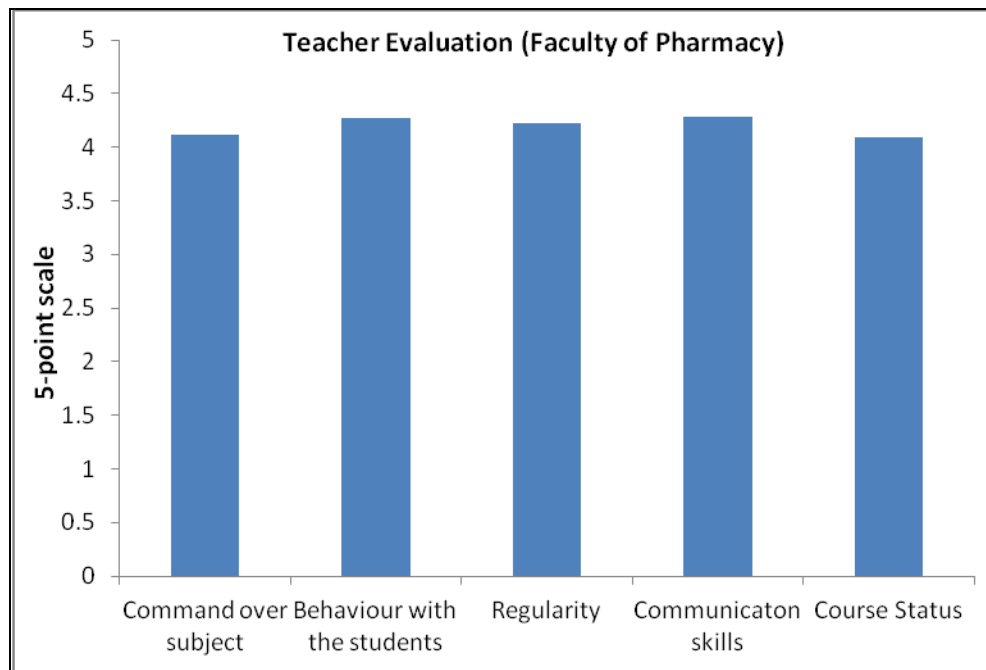
At the start of new session applications are invited through leading news papers. After getting the applications students are scrutinized with reference to pre-requisite of the program. Merit list of eligible candidates is made according the formula given in standard 5-1.

To monitor the students' performance we have internal as well as external base evaluation system. Every core subject bears 100 theory marks and 100 Practical marks. Both External and Internal evaluation system is in use.

**Standard 5-3: The process of recruiting and retaining highly qualified faculty members must be in place and clearly documented. Also processes and procedures for faculty evaluation.**

In order to attract qualified faculty , different domains of computing is defined in the programs and as per the expertise required , demand for the staff along with the expertise details is send to Administration for advertising the positions in leading English and Urdu News papers. As per the application received, the scrutiny committee short list the applicants for the evaluation test as per the criteria advertised. A third party is involved for conducting the test to make the process transparent and successful candidates of the test are further passed through a selection board in which a panel of experts interviews the candidate. After the selection board syndicate gives the approval of these selections, there after appointment is offered to the faculty.

There was no systematic process before to evaluate the faculty members, now after establishment of QEC each faculty member is evaluated by the students via “Teacher Evaluation Questionnaire”.



**Standard 5-4: The process and procedures used to ensure that teaching and delivery of course material to the students emphasize active learning and that course learning outcome is met. The process must be periodically evaluated to ensure that it is meeting the objectives.**

In order to ensure that the teaching is effective a quarterly survey is conducted by the University QEC and the findings are communicated to the concern faculty members. After completion of survey assessment team meeting is called to assess the process and make implementation plan for the said department.

**Standard 5-5: The process that ensures that graduates have completed the requirements of the program must be based on standards, effective and clearly documented procedures. This process must be periodically evaluated to ensure that it is meeting its objectives.**

No proper procedures to assure that the graduates meet the program requirements or not. This area needs concentration to develop this procedure. Plan required for this area.

## **Criterion 06: Faculty**

**Standard 6-1: There must be enough full time faculty who are committed to the program to provide adequate coverage of the program areas / courses, continuity and stability. The interests and qualifications of all faculty members must be sufficient to teach all courses, plan, modify and update courses and curricula. All faculty members must have a level of competence that would normally be obtained through graduate work in the discipline. The majority of the faculty must hold a Ph. D. in the Discipline.**

The following table indicate program areas and number of faculty in each area

<b>Program Area</b>	<b>Courses in the area and average number of sections per year</b>	<b>Number of faculty members in each area</b>	<b>Number of faculty with PhD</b>
<b>Pharmaceutics Department</b>	Physical Pharmacy, Pharmaceutical Preparations, Dispensing and Community Pharmacy, Hospital Pharmacy, Clinical Pharmacy 1, Biopharmaceutics, Clinical Pharmacy2, Industrial Pharmacy, Quality Control, Pharmaceutical Technology, Microbiology	08	02
<b>Pharmaceutical Chemistry Department</b>	Pharmaceutical Organic Chemistry, Pharmaceutical Biochemistry, Pharmaceutical Analytical Chemistry, Pharmaceutical Medicinal Chemistry	06	01
<b>Pharmacognosy department</b>	Pharmacognosy 1 and Pharmacognosy 2	02	0
<b>Basic Medical sciences Department</b>	Physiology, Anatomy, Histology, Pathology, Pharmacology 1 and Pharmacology 2	05	0
<b>Total :</b>		<b>21</b>	<b>03</b>

Almost all Faculty members are M.Phil and registered in PhD studies. It is clear from the above table that the information provided in the faculty members resumes that this standard is satisfied.

**Standard 6-2: All faculty members must remain current in the discipline and sufficient time must be provided for scholarly activities and professional development. Also, effective programs for faculty development must be in place.**

The Faculty of Pharmacy has number of faculty members involved in research work and professional development. Research workshops arrange but no specific time frame to arrange the workshops and seminars. Improvement needs to arrange refresher courses and research workshops.

**Standard 6-3: Faculty members should be motivated and have job satisfaction to excel in their profession**

There are different programs for faculty benefits and there motivation i.e.

- 1) Reasonable work load and class size as per the HEC requirement for getting quality in education.
- 2) Attractive salary packages.
- 3) Paid vacations.
- 4) Hard area allowance.

*For survey chart see the Graph: 1 Criterion: 8 Institutional supports Standard 8-1*

A faculty survey was conducted and the response is as below:

**Faculty Comments:**

**Q. What are the best program/factors currently available in your department that enhance your motivation and job satisfaction?**

1. M. Phil and Ph. D. research work.
2. Good teaching and research and very handsome pay are the main factor of satisfactory.

3. Good response of the senior staff and well guidance from time to time to us very good environment of the department.
4. Teaching & Research program is the main factor for satisfaction.
5. Cooperation among teaching staff.
6. Co-operation among teachers in Teaching and Research programs is the main motivation and job satisfaction factor.
7. Co-operation among teachers in Teaching and Research programs is the main motivation and job satisfaction factor.
8. Co-operation among teaching staff in Teaching and Research programs is the main motivation and job satisfaction factor.
9. The pleasant teaching environment co-operation from colleague interaction with community is the positive aspect of this department.
10. I hereby enjoy the department due to the interaction with students and colleague.

**Q. Suggest program/factors that could improve your motivation and job satisfaction?**

1. The only factor which improves motivation of a worker all over the world is to observe merit. Social activities are introduced.
2. No test and arrangement totally exam should be external.
3. Conduction of refresher courses, seminars and English language courses, all this factor will developed the mind of all teachers.
4. Make foreign tour for most junior people.
5. Exam should be totally external.
6. Favoritism should be stopped among teachers.
7. Mutual collaboration among Department to improve the motivation.
8. Conduction of refresher course, seminar & conferences are prerequisite for the development of nation.
9. (i) Exam should be totally external.  
(ii) Favoritism should be stopped.  
(iii) Providing research facilities.  
(iv) Mutual co-operation among departments research improve the motivation.

- 10. (i)** Exam system should be totally external.
- (ii)** Conference & Seminars in the Department improve the motivation.
- 11. (i)** Mutual Co-operation among departments for Research to improve the motivation.
- (ii)** Conduction of refresher Course, Seminars & Conferences are prerequisite for the development of nation.
- (iii)** Favoritism should be stopped.
- (iv)** Exam should be totally external.
- 12.** Providing of research facilities to faculty member conduction of refresher course Seminars & Conferences are prerequisite for the development of a nation as whole and for our Institution particularly providing of research fund from own resources if possible.
- 13.** Provide research facilities internet services and multimedia facilities for teaching. Provide opportunity for higher studies.

## **Criterion 07: Institutional Facilities**

**Standard 7-1: The institution must have the infrastructure to support new trends in learning such as e-learning**

The e-learning facilities are not sufficient to fulfill the requirements to meet the new challenges. Computer Lab is available with small number of computers which are out of order and also no access to the Pharm-D students. Improvement needs for this section and will be implement in the implementation plan.

**Standard 7-2 : The library must possess an up to date technical collection relevant to the program and must be adequately staffed with professional personnel**

The departmental library has the collection of latest books. The total numbers of books in the library are

<b>Name of Item</b>	<b>Quantity</b>
Books	5648

### **Central Library:**

The central library has also the facility to facilitate the Pharmacy graduate students but with small number of books. Our central library has very small number of books in all fields. No e-learning facility. Improvement needs in this section.

**Standard 7-3: Class-rooms must be adequately equipped and offices must be adequate to enable faculty to carry out their responsibilities**

Class room shortcomings

- 1. Multimedia:** No multimedia present in the classrooms.
- 2. Sound System:** No sound system present.
- 3. Desks / Chairs:** Desks and chairs are present
- 4. Light System:** Light system is present but not up to the requirements.

No multimedia concept here. All the lectures are delivered via white board.



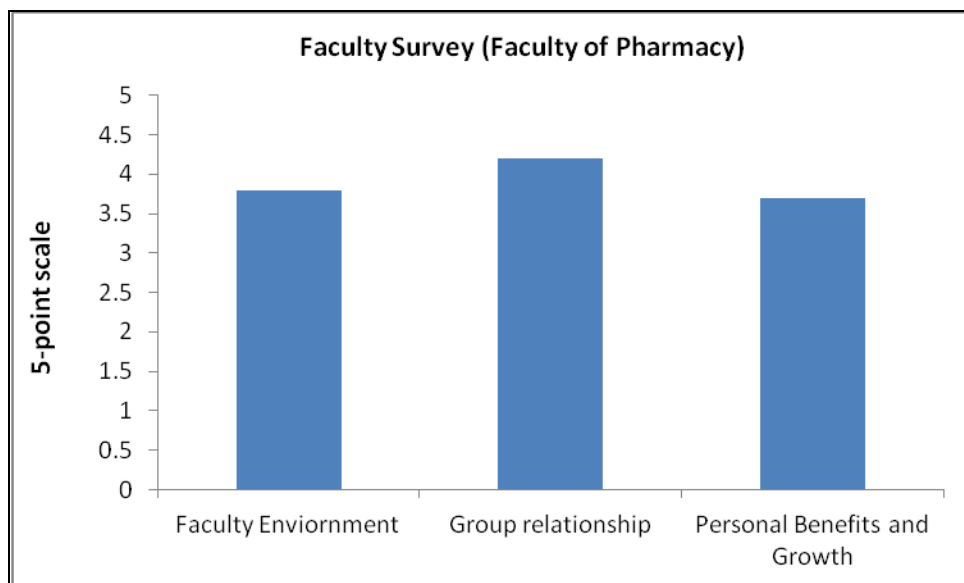
## **Criterion 08: Institutional Support**

**Standard 8-1: There must be sufficient support and financial resources to attract and retain high quality faculty and provide the means for them to maintain competence as teacher and scholar.**

All the financial matters of Faculty of Pharmacy run by University Finance Directorate and very little is left at department level. The university provides all the financial support needed to run the programs of studies in Faculty of Pharmacy. Salaries of the faculty as well as supporting staff are facilitated by the university. The compensation including benefits like housing and children are also provided by the administration.

The University has the department of Staff Welfare which is run by the SWO (Staff Welfare Officer).

For this purpose we have conducted the survey



**Graph: 1**

**Standard 8-2: There must be an adequate number of high quality graduate students, research assistants and PhD students.**

Currently Faculty of Pharmacy has broad and active approach towards research but there is also some problems facing by the students during research.

1. lack of chemicals
2. Lack of funds for the functioning of research equipments.

**Standard 8-3: Financial resources must be provided to acquire and maintain library holding, laboratories and computer facilities**

At the moment the departmental library has almost 5648 volume of books, out of these most are latest in different fields.

The department has established a computer lab which has the facility of internet and digital library.

The department is well equipped with request to latest instant and the student has the facility to perform the experiments. However, the department is facing problem to get chemicals etc for practical as well as for research.