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# Our Mission

"To provide quality education to the youth of our nation in a stimulating and conducive learning environment by equipping them with the intellectual and technological tools necessary to meet the challenges of the future."



### Chairman's Message

It is my immense pleasure to welcome you to the University of Central Punjab, a nationally recognised university for academic and extracurricular achievement. Here at UCP, we are a dynamic community of scholars and students alike who are devoted to serving our nation through education and research.

UCP has students from all over Pakistan, from different social, cultural and economic backgrounds. We thrive in knowing that our community is diverse, friendly and tolerant. We take pride and honour in our role in developing young minds. This is done not only through academics but through a wide variety of educational, social and athletic activities that are available so that you may embark on a journey of self-discovery and growth. This prepares you to play effective roles in our complex, challenging and ever-changing society.

As a student, you will not only benefit from extraordinary resources of a world class institution that has been dedicated to teaching and research since its inception but also from a faculty that is committed to your moral and intellectual well-being. Your teachers look forward to guiding you through your years at UCP as well as after you have graduated.

As UCP looks to the future we aspire to promote multi-disciplinary research at our institution, not only to aid Pakistan's industry but also so that our students have the opportunity to pursue a limitless list of courses. We aim to make our students adaptable to change so that they may thrive in a rapidly evolving job market; critical thinkers to be able identify problems in our society and; creative to come up with pragmatic solutions. Furthermore, campus wide encouragement of entrepreneurship is underway in order to make our students job creators instead of job seekers as the population of Pakistan continues to boom and industry continues to grow at a less rapid pace.

I urge you to make most of your time at university and avail every opportunity that comes your way. May your journey with UCP be memorable as well as transformative!



### Mian Amer Mahmood, H.I

### Chairman Board of Governors

University of Central Punjab

#### Chancellor

Mohammad Ali Jinnah University Capital University of Science & Technology

### Chairman

Punjab Group of Colleges Hadaf Group of Colleges Allied Schools EFA Schools Resource Academia Schools

#### **Chief Executive**

Dunya Television Network Lahore News

### Editor-in-Chief

Roznama Dunya







It is a great honor for me to welcome you to the University of Central Punjab (UCP). The University was established with a vision to produce competent professionals, who could be instrumental in the development of a prosperous society. The University took this challenging task and devised its strategy to acquire the status of being classified as a provider for career oriented individuals, who can create a positive impact on the society. The University remained focused on its goal, and in a short span of time earned a respectable name in the field of higher education. Today, we have a large number of alumni working in the country and abroad, and we are proud of the progress they have made, and the way they have contributed towards the betterment of humanity.

*In an academic system, some of the* vital organs that determine its quality include curriculum, faculty and teaching environment. Any compromise on these will be at the expense of the academic quality. At UCP, the curricula followed by various Faculties for their degree programs have been carefully designed to cater to the needs of local industry, without compromising global trends. Thus, the University is a vibrant center of quality, dedicated to providing valuable education in various fields, in accordance with the specific developing

### Pro-Rector's Message

Prof. Dr. Mansoor Ahmed Pro-Rector, UCP

PhD(Cambridge), CEng(UK), FIEE(UK), SMIEEE (USA), Eur. Ing (Brussels)

needs of our country.

Though we have got excellent infrastructure and other support facilities to execute our academic programs, our main pride is our quality faculty. UCP faculty is highly professional, mission oriented and motivated. The value addition they are creating in UCP graduates is something we are really proud of.

Apart from project and case study based learning, we, at UCP, make a conscious effort to expose our students to a multi-faceted environment to groom their personality and interpersonal skills. Our success so far has been the result of superb team effort by active scholars and teachers, caring and committed staff, hardworking and exceptionally motivated students.

It is pertinent to mention here that UCP offers a good number of graduate programs which are offered in the fields of engineering, computing, management, pharmacy, media and life sciences. R&D is a prime thrust of our graduate programs, especially in PhD studies. In this connection, the University strives to maintain a good liaison with industry and other R&D organizations.

The University believes in constant

improvement; in this connection, each degree program is, therefore assessed periodically against its pre-defined outcomes. This gives the University a chance to know the quality of its graduates apropos the requirements of the industry or employers. Based on stakeholders' feedback, appropriate remedial actions are taken, where necessary, to stay abreast with technological and industrial needs.

In this fast changing world, irreversible changes have occurred, and our University stands ready to meet the challenges of improving economic and social well-being. The University is uniquely positioned to be innovative and to capitalize on new ideas, approaches and technologies. We at UCP intend to provide our students with the key for unlocking the door to a prosperous and fulfilling future.

In addition to its academic offerings, the university provides a campus life that is rich with extracurricular activities, clubs /societies and sports to help build a social network that aims to involve all students and it also serves to attract alumni to return to campus often to support the next generation of students, and to contribute in making UCP the best university in the region and beyond



Prof. Dr. Faisal Mustafa Provost, UCP PhD (University of Huddersfield, UK), PGCE (University of Essex, UK)

### Provost's Message

Greetings and a very warm welcome to the University of Central Punjab (UCP)! We thank you for having chosen UCP. We further extend our gratitude to parents for having entrusted us for the education of their children.

University of Central Punjab is well known for its academic excellence and exhibiting highest standards of professionalism in providing exemplary services to the University's students, faculty, staff, and alumni. UCP is a multi-disciplinary University providing excellent environment conducive to learning, research and innovation. University has already carved a niche for itself in the academia worldwide. We have over 50 programs with 29 undergraduate, 15 graduate and 7 post graduate degrees which we are delivering through our 9 faculties.

At University of Central Punjab, our aim is to provide quality education to the youth of our nation in a stimulating conducive learning environment by equipping them with intellectual and technological tools necessary to meet the challenges of the future. We offer unique combination of theory and practice that will challenge students to become a champion of innovation and to excel in their chosen field of study. To achieve, we focus on research-led teaching, industry collaboration strategy

and on our faculty development. We are committed to providing high standards of teaching, assessment and feedback, backed up by a robust personal tutor system. We also feel proud to offer a social life on campus which is an excellent blend of modernity and our rich cultural traditions. As one of our students, you will be taught in modern classrooms and laboratories for your practical sessions. Our dedication to continually updating and improving our facilities means that we have best equipment in every subject area of the University. Along with achieving teaching excellence, our colleagues have been able to publish good quality research work in high impact factor journals.

It has been an honor and a privilege to be a part of UCP, as there are shifting landscape and challenging times for higher education but together we will grow and succeed in our mission. Through our collective efforts and effective implementation, we can make a difference, which will also result in stronger partnership and collaboration with regional and international institutions and will boost economic growth of our country.

Lastly, becoming a part of UCP family means you will have a support from day one and we help you to achieve your vision of success.



# The Punjab Group - An Overview

The Punjab Group has its roots in a Commerce College set up in Lahore in 1985. Over a period of 35 years, the Group has grown into the largest educational network in Pakistan providing quality education from Playgroup to PhD. The Group, as a progressive enterprise, includes 3 chartered universities, 417 colleges, 15 Resource Academia Schools, 1038 Allied Schools and 306 EFA Schools. The total student body of The Punjab Group is 520,000 students on rolls and 22,76,000 alumni.

The Group proudly owns Mohammad Ali Jinnah University in Karachi, Capital University of Science & Technology in Islamabad and University of Central Punjab in Lahore.

The Group pledges to achieve high literacy rate by working together with private sector to support parents' affordability to educate their children.

The Punjab Group Family consists of Educational Excellence Limited, National Communications Services (SMC-Pvt.) Limited and Tower Technologies (Pvt.) Limited is a hi- tech company of the Group which provides expertise and tailor made IT solutions. National Educational Network (Pvt.) Limited, have been set up to take care of franchising Elementary, Secondary and Higher Secondary Education across the country in the form of Schools and Colleges.

Economic-politico-social fabric of the society cannot be reformed until media develops critical thinking of the general masses. National Communications
Services (SMC- Pvt.) Limited owns and operates one of the largest and most sophisticated Television Networks in Pakistan known as Dunya TV Network. Roznama Dunya is a new addition in the communication network side.

With the progressive vision of the Board of Directors of the Group and the collective efforts of all the stakeholders, the Group expects an annual growth of 30%.

As a large, progressive educational group, our main focus is teaching. If you come to us, you'll have a fantastic learning experience.

# Landmarks Achieved

Establishment of Punjab College at Canal Bank, Lanore	1985
Establishment of Islamic Commerce Educational Society	1986
Establishment of Punjab Law Colleges	1988
Punjab College at Faisalabad and Rawalpindi	1988
Punjab College of Business Administration, Lahore	1991
Punjab Institute of Computer Science, Lahore	1993
Punjab College at Islamabad	1996
Punjab College at Gujranwala	1997
Punjab College for Women	1998
Mohammad Ali Jinnah University, Karachi	1998
Mohammad Ali Jinnah University, Islamabad	1998
Punjab College opens its branches at Sargodha and Multan	1999
Punjab College of Information Technology	2000
Tower Technologies (Pvt.) Limited starts operations	2001
University of Central Punjab	2002
Resource Academia School System	2003
Punjab College at Sialkot	2004
Punjab Colleges of Science	2005
Punjab College at Rahim-Yar-Khan	2006
Dunya News Network goes on-air	2008
Punjab College expands its network to Bahawalpur, Gujrat, Okara	2009
New Campus of University of Central Punjab at Johar Town, Lahore	2010
New Campus of Mohammad Ali Jinnah University in Islamabad	2010
Setting up of Allied Schools (Franchised Educational Network) in 45 Cities	2010
Setting up of Punjab Colleges in 18 New Cities	2010
Setting up of Allied School in 75 New Cities	2011

Setting up of Punjab Colleges in 20 New Cities	2011
Setting up of Allied School in 84 New Cities	2012
Setting up of Punjab Colleges in 16 New Cities	2012
Capital University of Science & Technology	2012
Resource Academia School System (Franchised Educational Network)	2012
Setting up of Allied School in 107 New Cities	2013
Setting up of Resource Academia School in 4 New Cities	2013
Setting up of Punjab Colleges in 11 New Cities	2013
Setting up of Resource Academia School in 1 New City	2014
Setting up of Allied School in 133 New Cities	2014
Setting up of Punjab Colleges in 06 New Cities	2014
Setting up of Resource Academia School in 3 New Cities	2015
Setting up of Allied School in 119 New Cities	2015
Setting up of EFA Schools in 85 New Cities	2015
Setting up of Punjab Colleges in 8 New Cities	2015
Setting up of Resource Academia School in 4 New Cities	2016
Setting up of Allied School in 93 New Cities	2016
Setting up of EFA Schools in 86 New Cities	2016
Setting up of Punjab Colleges in 6 New Cities	2016
Setting up of Resource Academia School in 2 New Cities	2017
Setting up of Allied School in 76 New Cities	2017
Setting up of EFA Schools in 56 New Cities	2017
Setting up of Punjab Colleges in 15 New Cities	2017
Setting up of Allied School in 65 New Cities	2018
Setting up of EFA Schools in 28 New Cities	2018
Setting up of Punjab Colleges in 2 New Cities	2018
Setting up of Hadaf Group of Colleges in Peshawar	2018
Setting up of Punjab College in 2 New Cities	2019
Setting up of 8 Punjab Colleges in 7 Cities	2020



### Town & City Life of Lahore

Once walled and contained within thirteen gates, the city of Lahore has now expanded into a mega city with a population count of nearly ten million. This historic city has been an important seat of power in different eras. It was the capital city for the Ghaznavids rule in the 12th century; for the Mughals in the 16th century; the Sikhs in the 19th century and the regional capital during the British rule in the 19th and the 20th centuries.

## Monuments and Mausoleums

The ageless landmarks of Lahore's

historical journey stretch across the suburbs of the city. Badshahi Mosque, Lahore Fort, Shalimar Gardens, mausoleums of Jahangir and Noorjahan continue to be silent yet eloquent historians of their times. Similarly, the British Gothic structures like the Lahore High Court, the General Post Office, Lahore Museum are the concrete footprints of the British rule.

Lahore has the honour to be the eternal resting place of a number of saints. Individuals like Ali Hajveri, Bibi Pak Daman and other noble souls, reposing since centuries in the crust of

Lahore; continue to gravitate millions to their shrines.

### City of Colleges

The establishment of some outstanding educational institutions in Lahore can be termed as a positive contribution by the British rulers for the betterment of the people of Lahore and the region. These include King Edward Medical College in 1860, Government College, Lahore, in 1864, the University of the Punjab in 1882, and Kinnaird College in 1913, in addition to scores of other learning institutes of different disciplines.









Ever since, Lahore has been the centre and source of remarkable economic, cultural and academic progress in the region. It is called the city of colleges, having the largest number of learning institutions on its soil. Amongst them is the University of Central Punjab that is remarkably playing its part in augmenting the academic standards in the city as well as in the country.

### **Information Hub**

The city, over a relatively brief period of time, has made huge progress in the field of journalism, too. Number of TV stations, newspapers and other publications are providing news and commentaries 24/7.

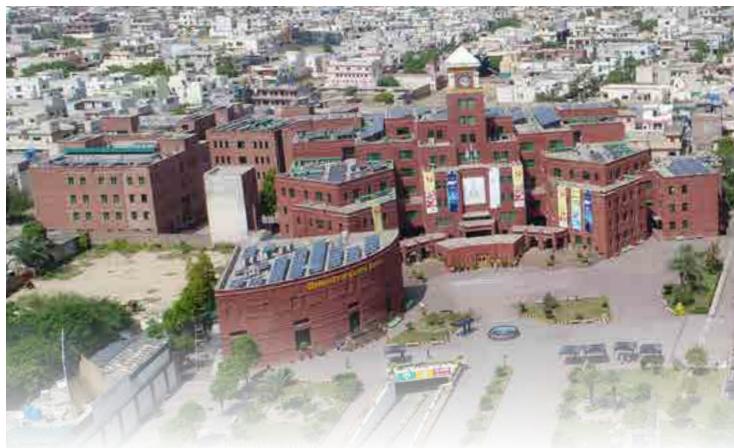
### Food and Recreation

When it comes to leisure and recreation, besides other pursuits, 'Lahorees' enjoy eating with fervour and flavour. No wonder, food stalls and food streets have a booming business round the year. However, some of the eating places in Lahore have also been the meet point for intellectuals and scholars. Pak Tea House is one of those places where people like Faiz Ahmed Faiz, Ibne Insha, Saadat Hassan Manto, Nasir Kazmi and others

sipped their tea and shaped their ideas.

Fostering its own unique and abiding values, Lahore continues to march forward, true to its axiomatic depiction:

Lahore is Lahore.



### The University of Central Punjab

Education in the twenty-first century demands a balance between continuity and change. The technological leaps and the consequences thereof have overtaken the old educational paradigms and new concepts have emerged in the world of learning. The Punjab Group of Colleges (PGC) was among the first to realize this transition and its challenges. The PGC, therefore, submitted a petition to the Government of the Punjab, in August 1996, to allow to establish a university in the province. A No Objection Certificate was issued in October 1999. The charter to establish the University of Central Punjab (UCP) was awarded in April 2002. Thus this University clinched the distinction of becoming the first private sector university in the Punjab which acquired the status of a degree awarding institution.

When the University started its operations in October 1999, it offered

courses in Management Studies, Information Technology, Commerce and Law through its principal constituents i.e. Punjab College of Business Administration (PCBA), Punjab Institute of Computer Sciences (PICS), Punjab College of Commerce (PCC), Punjab Law College (PLC) and Punjab College of Information Technology (PCIT), all situated in Lahore.

These Colleges were restructured as Faculties of the University and became:

Faculty of Management Studies
Faculty of Information Technology
Faculty of Engineering
Faculty of Arts & Social Sciences
Faculty of Pharmacy
Faculty of Media &
Communication Studies
Faculty of Life Sciences
Faculty of Law
Faculty of Sciences

UCP offers everything students need to develop and succeed in their academic and professional lives.

To make the learning experience enjoyable and fulfilling, students are provided with cutting edge facilities and infrastructure. Multiple labs are provided with latest and highly sophisticated equipment. Airconditioned classrooms equipped with multimedia projectors facilitate teaching process by enhancing learning and understanding.

Besides multiple computer labs, Instrumentation and Measurement Lab, Telecommunication Engineering Lab, Computer Engineering Lab, Data Communication and Networking Lab are set up to provide engineering students an opportunity for hands-on experience.

With Wi-Fi facility available around the clock on the campus, students have



uninterrupted access to the internet that allows them to search information and conduct research anywhere on the campus. Free use of the computer labs is also available along with the technical assistance. UCP has an on-campus bookstore, a ladies' lounge, cafeterias and food street for the convenience of students. A stateof-the-art auditorium, digital library, executive lounge for permanent and visiting faculty members, a swimming pool and well equipped gymnasium deserve a special mention and are hallmarks of the UCP Campus.

### Academics

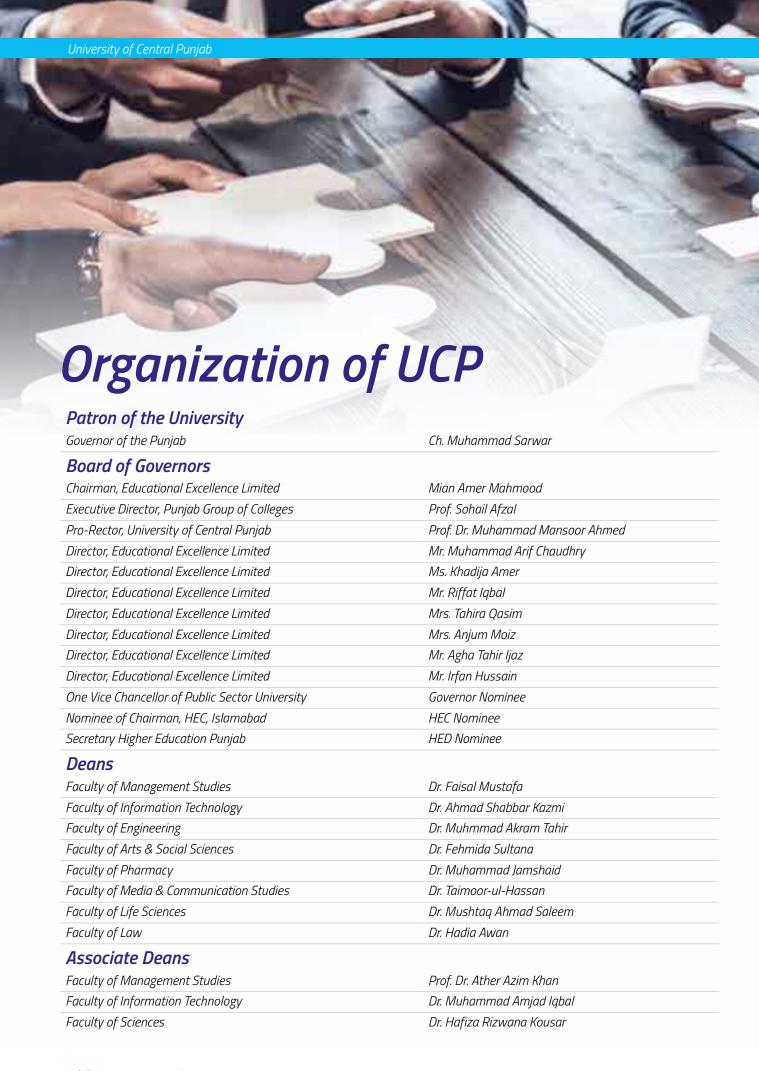
The University of Central Punjab seeks students of high intellectual ability and energy who are capable of contributing to the strength and excellence of its academic community. The curriculum offers students an opportunity for the pursuance of their future goals. Each faculty offers a range of programs and

a variety of possibilities for exploring abilities and talents. Whatever you choose to study at UCP, you will find our faculties a place for critical thinking, intellectual engagement and all the resources to make it happen. The campus life provides you an opportunity to collaborate and interact with other students that prepare you for the practical life after university years. By studying issues from a range of disciplinary perspectives, you learn deeper lessons about reality and the implications of alternative ways of conceptualizing problems. Volunteers in Service (VIS) program helps you to gain awareness of social responsibility and lifelong obligations to civic engagement. We invite you to visit our campus to see the first-class facilities, meet our top class faculty and feel the warmth of our congenial environment.

### Faculty and Staff

The faculty members at the University

of Central Punjab are highly qualified and experienced in their respective fields of study. We are proud to have a large number of PhDs, MS/MPhil. and Master's degree holders as faculty and staff members. They are specialists in their fields; many of them have taught in foreign universities and have published research papers in international journals. They are truly dedicated to their profession and provide guidance, care and support that students need from them. The experience and dedication of our faculty members will make your learning experience the most rewarding.



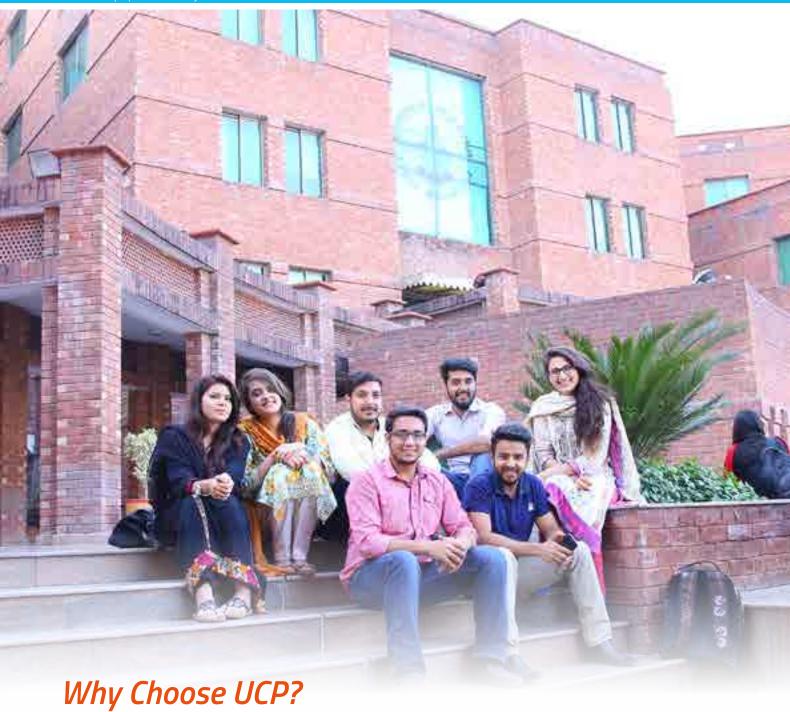


Manager Takhleeq

Manager Student Career Service

Mr. Uzair Shahid

Salman Shahid



### Heritage of Academic Excellence

Education in 21st century demands a balance between continuity and change. The technological leaps and its consequences have taken over the old educational paradigms and new concepts have emerged for learning. The Punjab Group of Colleges was among the first to realize this transition and its challenges to setup the University of Central Punjab, Lahore.

University of Central Punjab was envisioned with one clear objective: to create an institution, which is built on the foundation of a better thoughtout and deeper value system. This core belief of University of Central Punjab has been validated through top rankings, accreditations and awards from leading both national and international academic organizations.

### Highly Qualified Faculty

The finest resource that UCP brings

into the education space is its highly qualified and professionally experienced faculty members. These faculty members have brought knowledge of pedagogies, education processes, methodologies and experience in research. The faculty members work ceaselessly to inculcate complete positive transformation across processes, departments and the entire student body.

### Highest Placement Support

University of Central Punjab follows a process of industry-integrated education, where placement is the concluding component of an endways education system. Throughout the education process, the students are educated on industry-led syllabi which enable them to be market-oriented.

### High-Calibre Peer Group

University of Central Punjab was founded with a vision to create an educational environment for the students which enable them to emerge as intellectually and socially evolved leaders. The student body is chosen carefully so that the student intake could be appropriate in all respects.

### State- of-the-art *Infrastructure*

University of Central Punjab believes in the combination of theoretical as well as practical implementation. In order to ensure this practical environment, we have state of the art classrooms and separate laboratories for different faculties. All of these classrooms and laboratories are designed to ensure practicality and are fully equipped with the updated resources. Digital Learning is one of the best mediums used in today's World. In order to incorporate this learning method, each and every classroom is designed with built in multimedia. For the ease and comfort of student body all the classrooms and main lobbies are fully equipped with invertors.

### International Tie-Ups

The driving vision at University of Central Punjab is to evolve into a centre of international education excellence. To achieve this vision, the university is continuously developing strategic

international partnerships with reputed universities and institutions of higher learning across the globe. University's global strategy aims to develop strong and effective partnerships which provide faculty, students and researchers with opportunities for international collaboration and active involvement in multi-disciplinary projects at a global level.

### International Teaching Methods

University of Central Punjab uses a combination of international teaching methods to ensure all-round excellence.

- 1) Flexible Credit System
- Industry Tie-ups, Guided Syllabus and Integration
- Classroom-based Learning, Project-based Learning and Research-based Learning
- 4) Outcome-based Learning
- 5) Guest lectures by illustrious corporate speakers from Pakistan and abroad.

### Excellent Learning Environment

University of Central Punjab brings students and modern learning techniques together. University develops and nurtures world-class professionals and leaders, by inculcating them with what the university calls thinking Quotient. Thinking Quotient is going to be the competitive advantage in the 21st century and this is only attainable through quality education imparted by modern learning techniques.

'Not only our degree provides a wide range of modules, but it also gives an opportunity to the students to get as much practical experience in the

industry as possible'.

### Merit and Other Scholarships

University of Central Punjab believes in encouraging bright students. For this purpose, we have introduced different types of merit scholarships at the time of admission and after 2nd and subsequent semesters, financial aid for deserving students, special fee concessions for PGC students, kinship discount, special discounts for disabled students, discounts for UCP permanent faculty members and employees. Due to these different type of scholarships, almost 60% of UCP student body is availing some kind of fee concessions.

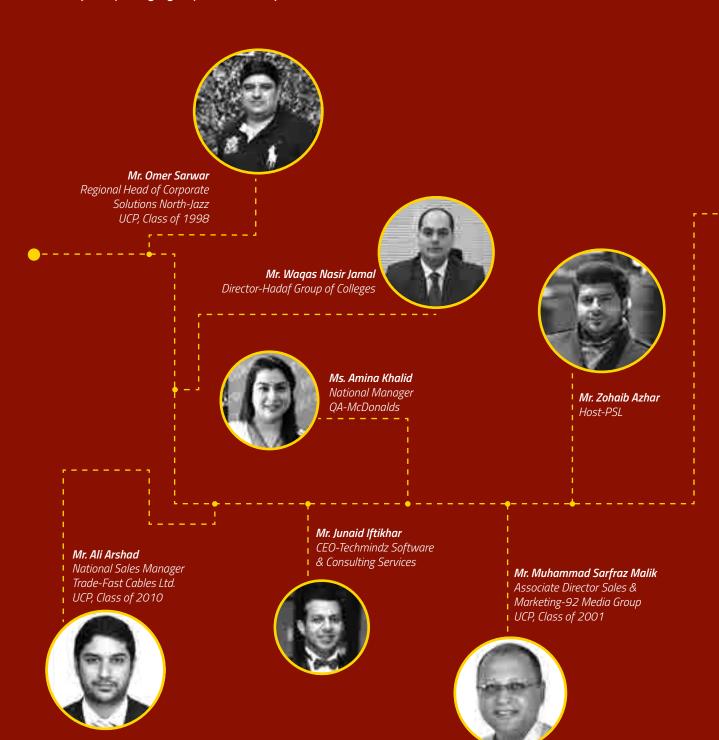
### Participation in Extracurricular Activities

Besides academics, University of Central Punjab strongly believes in personal grooming, skill learning, confidence-building, empowerment and strength. All students are encouraged to participate in extracurricular activities along with the academics which helps them to develop their soft skills. In order to ensure this personal growth on campus, we have more than 30 student societies through which students show their various talents and groom themselves according to the needs and requirements of the professional world. UCP provides a platform to all those students who have any talent and help them to nurture that in a positive and more refined way. These societies play a vital role in grooming the inner skills of an individual and they become more confident and present themselves in a better way when they join the practical world after their graduation.

# Meet Our Prominent Alumni

UCP Alumni are not only a large family, but a strong network of leaders.

Here are just a few highlights from our history.







Mr. Muhammad Imran Makhdoom Senior Engineer, NESPAK, Lahore

Mr. Sohail Afzal Malik Director Operations, Supply Chain & M&R, McDonald's Pakistan UCP-Class of 2004



Mr. Faisal Mahmood GM Marketing & Sales, Kamal Ltd. UCP-Class of 2000



Ms. Tosheeba Sarwar Chief Operating Officer, imanagers UCP-Class of 1993



Mr. Syed Iqbal Haider Jafri

Cards Business, Total Parco UCP-Class of 2003

Regional Manager

Mr. Taugeer Malik Managing Group Director
Bin Qutab Group UCP-Class of 1998



Kashif Masood Sethi . General Manager HUM Network UCP-Class of 1998



Ambreen Aslam CEO, Dhaani (Luxury Fashion Brand) UCP-Class of 2012









Amjad Niaz Director Administration

# Administration Office

The UCP Administration Office is tasked with coordinating daily operational functions, streamlining management systems, monitoring budgets and supervising property development and maintenance to ensure a safe and conducive learning environment at UCP Campus.

Superior organizational skills and strategic planning does assist in harmonizing operations, improving employee performance, organizing of people and resources efficiently so as to direct activities and energies towards common goals and objectives.

The following facilitation fall under university administration purview at UCP:

i. UCP's modern state of the art architectural infrastructure, equipped with latest gadgets for advanced teaching, learning and research is kept fully operational and updated through effective and efficient logistic support

ii. University Sports Complex is supervised and maintained for

students, teachers and university employees throughout the year. All season swimming pool and state of the art gymnasium are its hallmarks

iii. **Day Care Centre** for the kids of faculty members have been a great source of relief for those who do not have suitable support for their children back at home. Manger Day Care Centre along with a team of 7



members ensures happy stay for the kids at UCP while their parents are at work

iv. UCP provides an outsourced transport facility at very subsidized cost. A pool of 13 buses ply across the city throughout the day in addition to the shuttle service that remains up from 8:00 AM to 10:00 PM. Students are advised to contact Transportation Office for registration well before the commencement of their classes.

v. The UCP Administration with special focus on convenience, security and sanitation runs an on-campus Girls hostel. The Air Conditioned residence is managed by a female hostel superintendent with the support of 10 team members. Keeping in view the limited seats the students are advised to apply for the hostel facility in advance. The seats are allotted on first come first serve basis.

vi. Vigilance Committee comprising of senior UCP officials ensures an atmosphere of order, peace, tranquillity and equal opportunity for all. The complaints on account of misconduct are attended with due care and concern.

vii. The Chief Security Officer has a team of 175 trained personnel who remain vigilant on safety and security issues. For effective Security, periodical professional trainings are conducted in collaboration with govt. authorities.

viii. A special care is taken in managing all **food points** so as to provide hygienically fresh food at subsidized / approved rates. The vendors are bound to provide services as per approved SOPs of Punjab Food Authority. In order to ensure the provision of good quality food for UCP Community, a qualified Food

Quality Manager has been inducted permanently to supervise these food points. The students and faculty members are encouraged to share feedback for improvement.

ix. UCP as a strong supporter of renewable energy for clean and green environment has taken the initiative of solar power generations and currently 1/3rd of the total electricity requirement is being met with by **solar** power generation.

x. UCP Administration, being an equal opportunity institution is committed in all areas to provide a work environment that is free from harassment. A behaviour of offensive nature that demeans, humiliates or embarrasses a person, is taken as sheer violation of acceptable norms and is punishable under University Code of Conduct.



### **Library**

The University of Central Punjab has a full-service library on campus to serve the study and research needs of its students and faculty members. The Library stocks over 40,000 books and 1800 research projects in print format.

In addition, the Higher Education Commission has given our campus access to 12,000 online, full-text journals, international databases and other material published online worldwide. These invaluable research materials can be accessed by all of our students, even from their home computers.

Library is fully automated and its collection can be searched online from library's website:

### www.library.ucp.edu.pk

Library provides access to about 40 online scholarly databases to meet the needs of researchers. Moreover, it has subscriptions to more than 40

print journals and 16 newspapers.

Multimedia Section has a collection of renowned documentaries, lectures and educational films. In addition to routine operations, the library also offers Ask a Librarian, Content Alert, Electronic Document Delivery, Anti Plagiarism and Citation Services.

It is a fully user-cantered and researchoriented library with peaceful learning environment.









### **Transport**

Transport facility is provided to students on nominal monthly charges. A shuttle service between the University of Central Punjab campus and the prescribed routes run every hour. In addition to this service, buses transport students from various locations of Lahore to and from the UCP campus.

### **Prayer Area**

To cater for the spiritual well-being of the male and female students, separate arrangements for prayers are made on the campus.

### IT Infrastructure

The University of Central Punjab provides a pervading learning environment through its meticulously planned IT infrastructure. The academic experience of students is supported through extensive lab setup which includes 20 Teaching, 5 General and 2 Research Lab that are equipped with latest computers from DELL, HP, Apple and Lenovo. Altogether these labs offer seating capacity of 2000 plus students.

### Cafeterias

Multiple cafeterias on campus serves quality food in a hygienic environment to students from 8:00 am to 9:00 pm daily.

### **UCP Food Street**

Situated inside the campus, Food Street offers various traditional foods such as BBQ, halwapuri, chaat, dahi- baray, gol gappay, fresh juices and shakes.

### On Campus Female Hostel

To provide a secure accommodation to female students, UCP has started on campus hostel facility in Fall 2016. It has a place to accommodate 200 students at a time. UCP hostel has fully air conditioned rooms along with 24/7 Wi-Fi, laundry, ironing and all the modern facilities are available to the students.

### Swimming Pool

To provide a healthy environment to the students, a swimming pool and a state-of-the-art gym is available to students, both males and females separately, for sports and physical activities.

Beginning of university isn't just about studying — it's a time when you will meet new friends, experience new places and get involved with the numerous social activities that your university has to offer.







Madiha Qayyum

Director Admissions

### **UCP Admissions Office**

The Admissions Office, primarily assists students in every possible way; it serves, directs and administers the students when they step in the Institute for admissions. It is the mission of the Office of Admissions, to provide accurate information regarding programs, activities and services to prospective and current students, parents, and the general visitors. Our staff members strive to be efficient, courteous and informative for the students. We help prospective students to explore different options while making decision for their future endeavours.

Our Office is the main central office to provide information to the prospective students in terms of programs, faculties, scholarships, available facilities etc. The activities of providing information are conducted throughout the year. Admissions Office conduct promotional activities throughout Punjab by participating in educational expos and visiting different campuses of Punjab Group of Colleges. The Office is responsible of making yearly UCP prospectus as well as all the relevant promotional material for admissions.

UCP Call Centre is also working under the umbrella of Admissions Office to make the information process more efficient and effective. This Office is providing all the information related to complete admission process such as offered programs, eligibility criteria, important deadlines, assistance in online admission form and any other coordination required with other departments to facilitate the prospective students. A dedicated toll free number (080-000-827) is working 9:00 am to 5:00 pm for a robust process of admission application process.



The University of Central Punjab invites applications for admissions to its various programs twice a year, once in Fall and then in Spring.

However, Faculty of Engineering, Faculty of Pharmacy and Faculty of Law announce admissions in Fall only.

Follow these steps to

#### APPLY FOR ADMISSION at UCP:

**Step 1:** Students who are interested to apply are advised to visit the campus or our official website ucp.edu.pk for getting more detailed information about admission to their respective programs.

Step 2: After deciding the program, apply online by filling out the form at admissions.ucp.edu.pk and then pay application processing fees online/bank or at the Admissions Office.

**Step 3:** The complete admission form can be submitted online by using the UCP Online Admission Portal. After submission of the form, a candidate will get a letter bearing all admission

related information such as, reference number, admission test date, date of interview (if any) as well as the venue of the test.

**Step 4:** The merit list of successful candidates is displayed on the official website of UCP and acceptance letters are mailed at home addresses of the candidates.

Step 5: On deposit of dues, within the deadline, students are issued their registration numbers and are given the courses to study in the first semester.

Before commencement of classes, students are expected to attend an orientation session and collect their timetables from the information desk.

Every year, UCP attracts some of the most talented/gifted students. The network of our alumni is fast spreading in the corporate world and other fields. If you are looking for quality education and facilities, then UCP is the place for you. From classes to co-curricular, volunteering and participating, you will

be groomed to succeed at UCP and later in your practical life.

If you have questions along the way, we invite you to contact the Admissions Office any time. We look forward to hearing from you!

#### Email:

admissions@ucp.edu.pk

### Address:

1-Khayaban-e-Jinnah, Johar Town, Lahore

#### Phone No:

(+92) 080-000-827 (9:00AM to 5:00PM)

#### Facebook:

www.facebook.com/UCPofficial

#### Instagram:

www.instagram.com/ucpofficial

### Twitter:

twitter.com/UCPofficial

#### YouTube:

https://goo.gl/Eq6tTr



### **UCP Scholarships**

### For Undergraduate and Graduate Programs

The Following Scholarships shall be applicable from Fall 2020 Intake and onwards with the details as mentioned against each category of Scholarships. These Scholarships are subject to the conditions mentioned in Section (5).

### 1- Merit Scholarships for New Undergraduate Admissions

FOE, FOIT, FOLS	FOMS, FOS, FASS, FMCS, ADP	FOP, FOL	Scholarship	Continuation CGPA
85% Marks in FA/FSc	75% Marks in FA/FSc	N/A	100%	3.95 or Higher (Only if awarded at the time of admission)
80% Marks in FA/FSc	70% Marks in FA/FSc	80% Marks in FA/FSc	75%	From 3.90 to 3.94
75% Marks in FA/FSc	65% Marks in FA/FSc	75% Marks in FA/FSc	50%	From 3.50 to 3.89
70% Marks in FA/FSc	60% Marks in FA/FSc	70% Marks in FA/FSc	25%	From 3.25 to 3.49
Only in 2nd Seme	ester and onwards	12	.5%	From 3.00 to 3.24

**FOMS:** Faculty of Management Studies, **FOS:** Faculty of Sciences, **FASS:** Faculty of Arts and Social Sciences, **FOLS:** Faculty of Life Sciences, **FMCS:** Faculty of Media and Communication Studies, **FOP:** Faculty of Pharmacy, **FOE:** Faculty of Engineering, **FOIT:** Faculty of Information Technology, **FOL:** Faculty of Law and **ADP:** Associate Degree Programs.

**Note:** Any student acquiring the continuation CGPA shall be eligible for the corresponding scholarship even if not awarded at the time of admission.

### 2-PGC Scholarship

Category	FOMS, FOS, FASS, FOLS, FMCS, ADP	Continuation Scholarship	Continuation CGPA
		50%	3.25 or Higher
	All Degree Programs (50% at the time of Admission)	25%	From 3.00 to 3.24
	the time of Authission	12.5%	From 2.50 to 3.00
PGC	FOP, FOE, FOIT, FOL	Continuation Scholarship	Continuation CGPA
	All Degree Programs (25% at	25%	3.00 or Higher
the time of Admission)	12.5%	From 2.50 to 2.99	

3- Other Undergraduate Scholarships

Category	Description	Scholarship	Continuation CGPA
Need Base	Case evaluation by the Committee	25-100%	3.00 or Higher
Disabled	Official Disability Certificate and Committee Assessment 25-100%		2.50 or Higher
Win alsto	First kin enrolled in PGC/UCP	25%	3.00 or Higher
Kinship	2nd kin enrolled in UCP	50%	3.00 or Higher
Talent	Talent  Based on Co and Extracurricular Activities and Committee Assessment  25-100% 2.0		2.00 or Higher
Contingency	On sad demise of Father or Guardian during studies	50%	3.00 or Higher

/- Graduate Scholarshins (MS/MDhil)

Category	FOMS, FASS, FOLS, FMCS, FOP, FOE FOIT,	Scholarship	Continuation CGPA
	3.80 CGPA in 16 Years Degree	75%	3.9 or Higher
Merit	3.60 CGPA in 16 Years Degree	50%	From 3.75 to 3.89
	N/A at the time admission	25%	From 3.5 to 3.74
UCP Alumni	3.50 CGPA (50% Admission fee shall be charged)	50%	3.50 or Higher
	3.00 CGPA (50% Admission fee shall be charged)	25%	From 3.0 to 3.49
	N/A at the time admission	12.5%	From 2.5 to 2.99
Disabled	Official Disability Certificate and Committee Assessment	25 75%	2.50 or Higher
	First kin enrolled in PGC/UCP	25%	3.00 or Higher
Kinship	2nd kin enrolled in UCP	50%	3.00 or Higher
Faculty Members & Staff	5 Years Satisfactory Service	50%	3.00 or Higher
	3 Years Satisfactory Service	25%	3.00 or Higher
<b>Note:</b> Merit Scholarship can be	e received in any semester, during normal degree durc	ntion, by attaining co	ntinuation CGPA.

### 5- CONDITIONS

The following conditions shall be applicable:

- 1. For undergraduate Scholarship the required CGPA must be earned with a minimum load of 12 Cr.Hrs.
- For Graduate Scholarship the require CGPA should be attained with a minimum load of 9 Cr.Hrs. 2.
- Scholarships are awarded in the form of tuition fee waiver; they are not applicable on admission fee or any other charges of the University unless specifically stated.
- No Scholarship is applicable on MS/MPhil Thesis research work. 4.
- The Scholarship will be awarded only within normal degree duration and is not applicable on extra semester(s) for whatsoever reasons.
- 6. A disabled student if not meeting the CGPA eligibility criterion, he/she shall be awarded 25% reduced scholarship if the CGPA is between 2.25 to 2.5.
- 7. In Merit Scholarship, the students shall be awarded percentage which corresponds to their CGPA as defined in Section. (1).
- The University through its discretionary power has the authority to change the definition or percentage of any Scholarship, with the approval of the Academic Council, and it shall be binding on all awardees.
- No Scholarship is applicable on a repeat course or a course registered for improvement.
- 10. Student convicted by the Discipline Committee will be ineligible for any Scholarship/Award.



### Academic Rules & Regulation

### Admissions Eligibility

The minimum eligibility criteria for those who have completed Intermediate/A-Levels or equivalent for admission in an undergraduate program is at least 45% marks. For undergraduate programs of Engineering and Pharmacy, the minimum criteria is 60% and in case of admission in BS Computer Science, BS Software Engineering and BS Data Sciences, minimum 50% marks are required.

The minimum eligibility criteria for those who have 16 years Bachelor Degree for admission in MS/MPhil programs is at least 2.00 CGPA out of 4.00 or 50% marks from an annual system. For PhD admission, the minimum eligibility is 18 years Master Degree in relevant discipline with CGPA 3.00/4.00 or 60% marks from an annual system. Admissions in any program, after meeting the eligibility criteria, shall be granted on merit determined by the concerned Faculty.

# Transfer of Credits & Equivalence of Course

Transfer of credit is decided at the time of admission and is determined on course- to-course basis. Students seeking admission with advanced standing must provide all previous academic records to the Admission Department, in original, before commencement of classes. The University's acceptance of credits from other Institutions is subject to the following conditions:

- Transfer credits must come from a regionally accredited and HEC approved Institution.
- The transfer course must be similar in content and scope to a UCP course, or must conform to the same competency level of a similar course taught at UCP.
- 3. Only those courses and credits shall be considered for transfer in which the applicant has got grade 'C+' or higher and 'B-' or higher

- for undergraduate and graduate programs, respectively.
- Credit hours against accepted courses shall appear on UCP transcript without grades.
- Maximum credits transfer shall not exceed 50% of the total credit hours required for the degree program in which the applicant has sought admission in UCP.
- 6. Applicants expelled from other Institutions, for whatsoever reasons, shall not be considered for credit transfer.

### **Registration Process**

At the time of admission in first semester, the concerned Dean's Office assigns courses to the students. However, in all subsequent semesters, students, after consulting their advisors, should register themselves in courses strictly according to their roadmaps. Registration dates are announced well before time and students are required to regis¬ter themselves during those



dates. In the registration process, the University follows prerequisite based system and the portal will allow a student to register a course if its prerequisites, as determined by the Department, have already been cleared by the student. Students are expected to pay their dues for the selected courses before they are formally registered. Ongoing students may revise their registration before commencement of classes. No student will be allowed to change courses/sections afterwards. A usual academic load for which a student is allowed to register is 15-18 Cr.Hrs. Under special circumstances, with the permission of concerned Department, an undergraduate student may be allowed to register a maximum of 21 Cr. Hrs.

### Refund of Fee

All fees once paid are non-refundable and non-transferable. Only in case of new admissions there is a fee refund policy and its details are as under:

- Admission fee is NON-REFUNDABLE.
- 100% tuition fee is refundable if refund request is received before or within the 1st week after the commencement of classes.
- 50% tuition fee is refundable if request for refund is received in the 2nd week after the commencement of classes.
- No fee is refunded if the request is received after the 2nd week of commencement of classes.
- In case a program is not offered by the University after its advertisement, 100% Tuition and Admission fee shall be refunded.

Note: Fee refund request shall only be entertained if raised on the prescribed Fee Refund Form available at the Admissions Office.

### **Scholarships**

University is awarding generous Scholarships to its students in the form

of tuition fee waivers/concessions. At the start of a degree program, scholarships are awarded based on the applicant's earlier academic credentials, which may have a specific definition for a given degree program. To continue with awarded scholarship in subsequent semesters, there are continuation conditions, which are primarily based on the applicant's CGPA and Academic Load of the last semester. The applicant must fulfill the prescribed conditions to continue the scholarship in the next semester. Failing to comply with these conditions shall lead to the cancellation of the awarded scholarship at least for one semester. The same can be reinstated once the prescribed conditions are met.

The University for the time being awards scholarships under the following heads:

- Kinship scholarship
- PGC scholarship
- Alumni scholarship



- Merit scholarship
- Sports scholarship
- Need-based scholarship
- Talent scholarship
- Disabled person scholarship.

#### Class Attendance

Students must attend all the lectures for each course in which they are registered. Students not adhering to class attendance policy will be restrained from appearing in the final examination and they will be given W grade in the course.

A student must have 80% of attendance in each course/lab. A student missing more than 20% of the total classes/ lab, will be withdrawn from the course/ lab. No transfer of dues or tuition fee is permissible when a student is withdrawn from a course.

Attendance will be counted from the 1st day of the classes. A student delaying his/her registration and the payment of fee, will be marked absent from classes which could result in shortage of the required attendance and hence debarring the student from final examination. In any course, 4 absentees shall be treated as leave and no fine shall be charged. Beyond that, a fine per absentee may be imposed as a deterrent and after 6 absentees the course shall be withdrawn automatically with W grade in the transcript.

### Semester Credit Hours

One theory credit hour (1 Cr.Hrs) means that a particular course must have at least one hour of teaching per week for a period of 16 weeks. Hence, a course of 3 Cr. Hrs. will have 48 hours teaching or contact hours in a semester. On the other hand, one Lab Cr. Hrs. would mean-three contact hours per week for 16 weeks.

For a 3 Cr.Hrs course, there would be two 1:30 hours slots and for 1 Cr.Hrs lab work, 3 hour slots are, respectively, defined in the timetable. The time allocated for Mid and Final examinations is excluded from the computation of class/lab contact hours.

### Withdrawal From a Course

In order to withdraw from a course/ courses a written request must be submitted to the Dean/HOD within the dates published by the Registrar Office in the University Academic Calendar. If approved by the Dean/HOD, the students can withdraw from that particular course. However, W grade will appear on the transcript and fee paid for such courses will neither be refunded nor be carried over to the next semester.

### Semester Leave or Freeze of a Semester

Students who wish to discontinue study for a semester are supposed to get written permission from the Dean's Office in the first week of the semester on the prescribed form. They may resume their study in the next semester after seeking permission from the relevant Dean's Office at the time of registration. Students taking semester break without permission will be dropped from the university roll and treated as inactive students during their absence. They are not allowed to register in a subsequent semester unless their absence is regularized. A two semester unauthorized absence shall leave to cancellation of admission. Such candidates shall be charged admission fee again if they are granted re-admission.

### **Evaluation System**

It is at the discretion of the course

instructor to decide on the weights of all examinations, assignments, projects, presentations, quizzes etc. However, as a broad guideline set by the University, the distribution of weights of these components are given below:

Name of Exam	Weightage (%)
Quizzes, Assignments,	
Project, Class	30-40 %
Participation, etc.	
Mid-Term Examination	20 %
Final Examination	40-50 %

Midterm and Final Term examinations shall be administered by the Controller of Examinations Office (COE), and a date sheet in this respect shall be circulated by the COE Office, which must be complied with. No Midterm or Final Term examination shall be entertained if it is conducted without the approval of COE Office

### Final Examination

On the conclusion of 16-weeks of teaching, there shall be an examination referred to as Final Term Examination. It is usually a three hour examination and the Schedule of the same is published by the COE Office well in advance. Students are required to take the Final Term Examination of each registered course; failing which a grade shall be awarded as per the earlier status of the course. Only those students shall be eligible to sit in the Final Term Examination who have met the minimum attendance requirement and have cleared their semester dues.

Under normal circumstances, there is no provision of retake of Final Term Examination. However, in case of exceptional circumstances, the case may be submitted to the COE Office along with certifiable documents, which after due consideration shall be forwarded to the concerned Committee for a decision.

### **Grades and Grading System**

On the conclusion of a semester, every student shall receive a grade report, through University Portal; indicating academic progress of the student in enrolled courses and labs. UCP, in general, follows the relative grading system, where the final grades are distributed across the average performance of the class. The grading system of UCP is a 4-point grading system; similar to the one prevalent at most of the accredited institutions across the globe. The numerical equivalence and associated percentages of letter grades are given below:

Letter Grade	Grade	Marks (%)	
Letter Grade	Points	IVIUFKS (%)	
Α	4.00	86 - 100%	
A-	3.67	82 - 85%	
B+	3.33	78 - 81%	
В	3.00	74 - 77%	
B-	2.67	70 - 73%	
C+	2.33	66 - 69%	
С	2.00	62 - 65%	
C-	1.67	58 - 61%	
D+	1.33	54 - 57%	
D	1.00	50 - 53%	
F	0.00	Below 50%	
W	_	Withdrawal	
1	_	Incomplete	
N	_	Continued	
5	_	Satisfactory	
US	_	Unsatisfactory	
P/F	_	Pass/Fail	
()	_	Grade Replaced	

Satisfactory/Unsatisfactory grade is awarded for in progress research work; whereas, Pass/Fail grade is awarded on the conclusion of research work or in non-credit activities, such as non-credit internship etc. Grades with no defined

grade points shall not contribute in GPA/CGPA calculation.

### Course Numbering System

Each course number consists of two parts (e.g. EEHU1013). The first part con-tains alphabets; indicating the subject (EE-Electrical Engineering) and its domain (HU-Humanity), while the second part contains a four-digit number. The first digit indicates the course level (1-First year), the second digit indicates the domain of the subject (O-General), the third digit indicates the course number within that domain (1-First course of Humanity domain) and the fourth digit represents the credit hours (3-Cr.Hrs.) associated with the course.

### Summer Semester

Summer semester is usually offered for makeup and deficiency courses. In a summer semester, a three credit hour theory course or one credit hour lab can be completed in 8 weeks time by completing 48 hours of teaching/ contact hours on an accelerated pace. Maximum allowed course load for Graduate/Undergraduate students, in a summer semester, is 8 Cr.Hrs (two courses). Under usual conditions summer internship and course registration both are not allowed simultaneously. Since summer courses are normally offered on student's request; thus, course drop policy is not applicable on summer registration and a course registered in a summer semester shall be treated as confirmed and be charged accordingly.

### Incomplete Grade

A student may be awarded I (Incomplete) grade if he/she fails to meet all requirements of a course for the reasons beyond his/her control and it shall be subject to the following:

- It is usually permissible in research related studies and is awarded with the prior approval of the concerned Dean/HOD.
- I-Grade in a regular course/ labs can only be awarded under extenuating circumstances if approved by the COE.

I-Grade must be changed into an earned grade within four weeks after the declaration of the result; otherwise it shall automatically be converted into F Grade.

### **CGPA**

A student's Cumulative Grade Point Average (CGPA) is computed by multiplying the number of credit hours of each course by the grade points assigned to that grade, then dividing the sum of these products for all courses by the total number of credit hours in which the student was enrolled. Grade 'I' and 'W' are not involved in the calculation of GPA/ CGPA. All undergraduate students must maintain a minimum CGPA of 2.00/4.00 for successful continuation of studies at UCP; whereas, at Master level, a minimum CGPA of 2.50/4.00 is required to continue with the program satisfactorily. To continue in the PhD, scholars are required to maintain a CGPA of 3.00/4.00 throughout their academic career.

# Academic Probation and Expulsion

All undergraduate and graduate students who fail to maintain

a minimum CGPA of 2.0 or 2.5, respectively, will be placed on warning status at the time of declaration of semester result. Students with two consecutive warnings shall be placed on probation for the next semester and at the end of that semester, if they fail once again to attain the required minimum CGPA i.e. 2.0 or 2.5 for an undergraduate or graduate program, as the case may be, such students shall be dropped from the University Roll. All undergraduate and graduate students are, therefore, strictly advised to ensure that their CGPA is above the minimum required level throughout their course of studies.

### Course Load Under Probation

Student on probation are advised to repeat courses with grade(s) below 'C+' for graduate level courses and below 'C' for undergraduate level courses and will not be allowed to take any new course in the following semester. These students will be assigned courses by their respective Advisors with due approval of the relevant Dean's Office.

### Course Repetition

Students receiving an F grade must repeat that course or its equivalent and both grades will appear on the transcript. In order to improve CGPA, a student is allowed to improve a maximum of 6 courses at undergraduate level and 3 courses at graduate level, excluding those in which 'F' is replaced. The original as well as the revised grades of all repeated courses will be shown on the transcript;

however, better grades shall be considered towards CGPA calculation.

# Time Limit or Program Completion

From the date of first registration, all Bachelor degree programs must be successfully completed within a maximum duration of 7 years. MS/ MPhil degree programs with or without thesis must be completed within a maximum of 4 years. A PhD Scholar must qualify course work followed by comprehensive examination within two years (4 semesters) from the date of enrollment and synopsis qualification within a maximum of 3 years (6 semesters). For PhD program, maximum allowed duration, under usual circumstances, inclusive of semester break, if any, shall be 7 years. Under extreme circumstances a one year relaxation in this period may be granted if approved by the competent authority of the University.

# Application to Request a Transcript/Degree

Transcripts and Degrees are issued only on the written requests of the students. Verbal or telephonic requests for Transcript/Degree are neither entertained nor accepted. Official Transcripts and Degrees are issued on the University stationary, bearing the official embossed seal of the University. Transcript or other evidence of attendance will not be issued to or on behalf of a student if student's dues are unpaid to the University. Each student must obtain a clearance from relevant quarters of the University indicating

that all outstanding dues/books/ equipment etc., have been cleared, before raising request of the Transcript.

Program completion Transcript or Degree are issued if attested copies of earlier academic testimonials are submitted or original documents are shown in person to the Registrar/COE of the University.

# Retake of Final Examination

Students may experience exceptional circumstances that make it impossible for them to attend examinations. Such students are required to submit details of extenuating circumstances with documentary evidence to COE Office. These evidence shall be initially scrutinized by the COE Office and based on the COE initial judgment, the case may be returned for want of more documents or forwarded to the three members Deans Committee for its final disposal. Retake examination can be considered under two scenarios: a) serious illness of the student or b) death of an immediate family member. The detail of the policy is as under:

- 1. The student must intimate the COE Office prior to the examination and a detailed application with evidence indicating exceptional circumstances faced by the student must be submitted as soon as possible but not later than 7 days from the date of examination.
- In case of self-illness a certifiable evidence from a reputed hospital shall be required.

- In case of death of an immediate family member (Parent/Real Brother or Sister/Son or Daughter/ Husband or Wife) a death certificate from an appropriate office should be submitted.
- 4. The committee shall interview the applicants, if deemed appropriate, and it shall verify the submitted evidence to assess the genuineness of the requests. It shall finalize its findings within two weeks from the date of declaration of result.
- 5. If the retake application is because of the death of an immediate family member, only one day exam(s) could be considered for reexamination.
- 6. If retake is approved by the Deans Committee, I-Grade shall be granted to the approved cases, which must be converted into an earned grade within four weeks from the date of declaration of the result; otherwise I-Grade shall be converted into F-Grade.
- 7. Retake examination shall be awarded final letter grade on absolute scale by using grading table without taking into consideration average or normalization factor.
- 8. If a student failed to attend all the examinations of the registered courses, he/she shall not be considered for retake; rather the Deans Committee shall evaluate such a case for semester freeze/drop and in this respect, its finding shall be final

## Campus Discipline

Students of all levels are required to follow and honor the University discipline by:

- adhering to the University Dress Code as published from time to time.
- exhibiting that entry in the University is subject to valid University ID with registered status in the current semester.
- 3. showing respect to the teaching and non-teaching staff of the University.
- 4. complying to the instructions placed at various locations.
- 5. adopting listed safety procedure in labs and workshops.
- 6. showing a responsible attitude towards University property and infrastructure.
- 7. not getting involved in any activities intended to malign the University's academic image and repute.

#### Grievance Committee

There is a Grievance Committee having following members:

- 1. Provost as Chair
- 2. Two Professors
- 3. Concerned Dean/HOD
- 4. Director Students Affairs
- 5. Dy. Registrar Secretary

Students can approach Grievance Committee, if there is any issue regarding the fair applications of these Regulations.



**Mr. Jamal Ahmad** Senior manager IT

When you become the part of the prestigious institute, you gain access to the latest IT facilities in ideal working environment accompanied by skilled and professional technical support to assist you. IT Department is a team of committed, qualified, and experienced team members, providing state-of-theart IT infrastructure and services to more than 2,000 users on daily basis.

IT Department strives to provide unsurpassed computing facilities to students complemented with some of the additional facilities which are as follows:

- Every student is issued a unique computer login account to avail UCP Domain, Email and Online Portal facilities
- 2. A high speed internet access is available to all students. This internet access is available across

- the campus through wireless facility which can be used on the laptops or mobile devices. The access of this facility is granted through domain authentication which is as per policy of the University.
- 3. Students can avail free laser printing in all General Purpose Labs. These labs are equipped with heavy duty laser printers having the capability of printing duplex printing (two sided printing) with speed of 55 pages per minute.
- 4. Student can avail 300MB of secure data storage in form of Z:\ Drive in "My Computer", which can be used for their assignments, research work, and projects. This data is accessible to student from any networked computer within the campus.

- 5. HEC Digital Library is accessible on UCP network for UCP students
- 6. IT Department facilitates all recommended software (in coordination with course instructors) on all lab computers. These software includes accounting, databases, documentation, graphics tools, programing languages, project management, web developments etc. We also offer support for Microsoft Windows and other open source platforms like Fedora, Linux, PHP and MySQL.

We are responsible for smooth operation of Network and System Administration providing assistance to users regarding login to computer and internet, software trouble shooting and printing etc.



Mr. Ali Raza Javed Manager SSC



# Student Services Center — (SSC)

Student Services Center (SSC) at UCP has been established with an aim to address the students related queries and providing facilitation to the students. In order to facilitate students and visitors SSC is committed to providing quality academic and non academic services under one roof. These services are provided through specially trained team using modern IT & task resolution tools so that students do not route from one office to another for resolution of their problems or for seeking academic/non-academic guidance. SSC works closely with other faculties/ department across the UCP to provide specialist and general advice, information and services in various areas. SSC acts as a central point between a student and the relative faculty/department.

#### SSC is providing following services;

- Student Kiosk: A facility for applicants to fill/submit their online admission form. A dedicated resource is deployed at Kiosk to provide general assistance to students regarding online admission form.
- **Academic Documents Verification:** Dedicated counters are available for applicants for their previous document's verification so that their admission and scholarship eligibility can be determined.
- Fee Vouchers (New Admission): New Admission Fee Vouchers can be downloaded and printed online. SSC provides assistance to the new students to resolve any issues regarding receiving the online fee vouchers.
- **Bank Booth:** It is situated within the premises of SSC to facilitate new and ongoing students for the submission of their dues.
- **Accounts Office at SSC:** SSC also provides the facility of accounts office to new and ongoing students as commitment to its one roof operations. Accounts office issues new ID's to new students and provide various services to ongoing

- students like fine payments, fee clearances, fee confirmations etc.
- Student ID Cards (New and Ongoing): A dedicated counter is available to provide student ID card to new and ongoing students (card reissue in case of lost or theft)
- vii. Ongoing Students Registrations/ Add-drops: SSC facilitates students and batch advisors to complete their advance registrations and courses add/drops for upcoming semester.
- viii. Fee Vouchers Ongoing Students: SSC handles all queries related to fee vouchers, scholarships, fine etc.
- Scholarship Change/Update: SSC handles all queries related to scholarship change/update.
- **Courses Withdrawal Cases:** SSC deals with all requested course's withdrawal cases.
- Semester Freeze/Break: SSC handles all inquiries related to semester freeze/ break and vice versa.
- xii. Program Transfer/Change: SSC is also facilitating inter faculty program transfers for both new and ongoing students.
- xiii. Migration Cases: Internal and external migration cases are also handled by the dedicated staff of SSC.
- xiv. Credit Transfer Cases: SSC facilitates all students who are seeking any course(s) transfer (internal or external).
- xv. Password Reset: SSC facilitates students in case anyone require new portal/ domain password.
- xvi. Other General Inquiries: SC provides various other services to students such as:
  - a) Incomplete Transcript
  - **b)** Timetable Prints
  - c) Duplicate Student Card Requests
  - d) General Information etc.





**Ms. Rakhshanda Kokab**Director Libraries

# **UCP Library**

Our mission is to make advancements in knowledge to transform lives of our community. Library provides endless possibilities to enter into the world of knowledge through our wide collection of print and electronic resources. So, "Go further than you ever dreamed".



From library resources, most valuable resources of library are the dedicated and talented librarians. They work to assist faculty and students in their research and information needs. If faculty or students encounter difficulty in using a resource or service, librarians are there for help. We hope that users, not only take the opportunity to explore these resources on their own, but also utilize the expertise of the library staff to reach desired and accurate information at the right time. UCP Library comprises of high quality academic collection of approximately 45,000 books in different disciplines such as:

- Business
- Management Sciences
- Accounting and Finance
- Information Technology
- Engineering
- Arts and Social Sciences
- Pharmacy & Life Sciences
- Media and Communication Studies
- Law
- Sciences

The collection in the library is arranged according to a specific classification scheme known as Dewey Decimal

Classification (DDC) scheme.

## **UCP Library's Objectives:**

- To function as a dynamic information centre, supporting the educational process of the university
- To facilitate library users for effectively using the library resources
- To gather collections and provide access to materials in all formats to support curricula and programs
- To motivate and help students in becoming information literate and lifelong learners

## **Library Sections:**

- Acquisition Section
- Technical Processing Section
- Circulation Section
- Reference Section
- Digital Resources Section
- Serial Section

# Acquisition & Technical Processing Section:

Library always seeks to acquire new and latest material for library users. Acquisition section is responsible for making the required book available. UCP library has more than 45,000 books in print collection divided in multiple categories as followed;

- Reference collection
- General collection
- Computer Sciences collection
- Engineering collection
- Pharmacy & Life Sciences collection
- Management Sciences collection
- Urdu and English literature
- Law collection

# Reference & Digital Resources Section:

Active and specialized Help Desk have been set up to provide in-depth reference and research services. Library staff assists patrons in using the library or making enquiries through E-mails and telephones to meet their information needs. Reference section includes the wide range of information products, such as guides, encyclopaedias, directories, databases, equipment and facilities which are provided to enable research to be carried out to meet requirements of current era.

UCP Library subscribes electronic archival database of different disciplines to provide the latest



research based scholarly information to users. We provide campus wide access and VPN service only for PhD Scholars to all the resources described below.

UCP Library reference services can be obtained from 08:00 AM to 09:30 PM in all working days, the services include;

- Electronic Document Delivery (EDD)
   Service
- Similarity Index Report Services
- Library Literacy & Orientation Sessions
- Research Assistance
- Ready Reference Service
- Inter Library Loan
- VPN Service (only for PhD Scholars)

The subscribed resources include;

#### JSTOR:

UCP Library has subscribed a leading archival database JSTOR, to strengthen the research activities in the library. It includes archives of over 2600 leading core scholarly academic journals covering Business, Finance, Economics, Mathematics, Statistics, Language, Law, Religion, Philosophy, Anthropology, History, Geography, Biological Sciences, Political Science

and Education and other valuable materials. JSTOR is available to all students and faculty members of UCP within the campus.

# **HEC provided E-database ProQuest Dissertation &**

Theses: ProQuest Dissertations & Theses Global is the world's most comprehensive collection of dissertations and theses from around the world, spanning from 1743 to the present day and offering full text for graduate works added since 1997, along with selected full text for works written prior to 1997.

**Ebrary:** ebrary offers a wide variety of multidisciplinary e-books.

ASTM: The ASTM Standards & Engineering Digital Library is a vast collection of industry-leading standards and technical engineering information. It covers a broad range of engineering disciplines, including aerospace, biomedical, chemical, civil, environmental, geological, health and safety, industrial, materials science, mechanical, nuclear, petroleum, soil science and solar engineering.

**Springer Link:** Springer Link provides access to more than 500 full-text Springer- Verlag Journals and more

than 700 full-text journals.

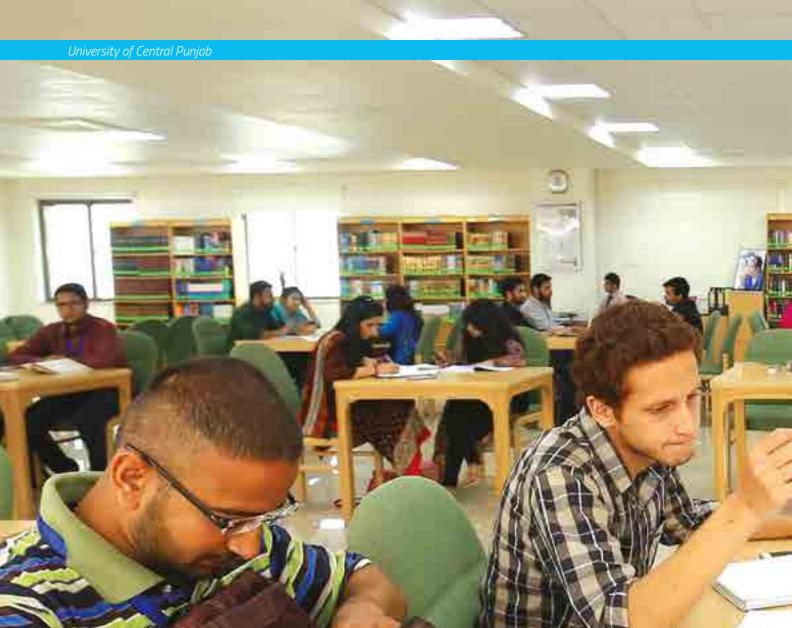
**Taylor & Francis:** Taylor & Francis has grown rapidly over the last two decades it contains more than 1000 journal titles in a full range.

- Wiley-Inter science: Wiley-Inter science online database containing maximum journals in science, technology, medicine, humanities and social sciences.
- Free Medical Journals: Many leading international medical journals available through "High wire Press".

## **Digital Resources Section:**

Digital Resource Section deals institutional repository. The UCP library use Dspace software for institutional repository to store UCP research work for long term preservation and for ensuring the online access as well as saving the space for printed resources. It includes different subjects for Example Social Sciences, Information Technology, Life Sciences, Pharmacy, Law, Business, Engineering, Communication and Media Studies research (Thesis) and course work. The campus wide access of Dspace is available for all the faculty, students and staff members of UCP.





#### Serial Section:

The UCP library serial section has subscribed multidisciplinary national and international journals/ magazines and newspapers.

#### Newspapers:

UCP library has subscribed 14 national & international newspapers in Urdu and English.

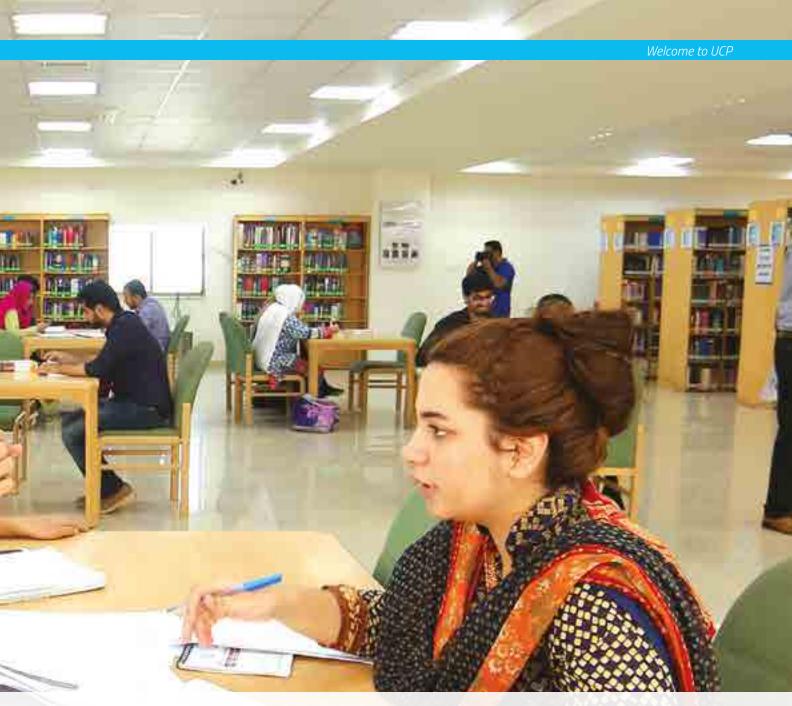
#### Multidisciplinary Journals:

Journal of South Asian Language and Linguistics, Applied Linguistics, Journal of Humanities and Social Sciences, Kashmir Journal of Language Research, Journal of Microbiology and Biotechnology, Journal of Biochemistry, New Biotechnology Journal, Journal of Marketing, Journal of Finance, Entrepreneurship Theory and Practice, Journal of Public Policy & Marketing, Academy of Management Review, Academy of Management Journal, Journal of Marketing Research, Journal of International Marketing, Media Asia, Asian Journals of Communication, Journal of Developmental Communication, Journal of Communication, Journalism and Mass Communication Quarterly, The International Journal of Press/ Politics, Journal of Advertising, European Journal of Pharmaceutics and Bio-pharmaceutics, Journal of Pharmaceutical Sciences, European Journal of Pharmaceutical Sciences, Drug Delivery, IEEE Transaction

on Pattern Analysis and Machine
Intelligence, IEEE Transaction on
Networking, IEEE Transaction on
knowledge and Data Engineering, IEEE
Transaction on Neural Networks and
learning Systems, IEEE Transaction on
Fuzzy Systems, IEEE Transaction on
Games, IEEE Transaction on Software
Engineering.

#### Multidisciplinary Magazines:

Aurora, Business Review UK, Business Traveller, Computer Arts, Foreign Affairs, Fortune Magazine, Global Village, Harvard Business Review, MIT Sloan Management Review, MIT Technology Review (International) MIT Technology Review (National), National Geographic USA, Pakistan & Gulf Economist, Reader Digest Asia,



Scientific American, Supply Chain Management Review, The Economist UK, Time Magazine.

#### Table of Contents Service:

Table of Contents (TOCs) is one of the major services offered in serial section. It is designed to keep UCP faculty abreast with latest published research. Through this service, the table of contents of every new issue of the journal(s) of your interest will be provided to you as soon as they get published. You may also send your requirement for full text articles at refdesk.library@ucp.edu.pk

#### Circulation Section:

UCP library Circulation section supports library patrons in the location and

circulation of library material. Services of circulation section include checkouts, check-ins, renewal, reservations of materials and library fines related to overdue books. Staff is available to help users with all procedures, rules and regulations related to circulation services of UCP library.

# Other Library Services/Facilities include:

- OPAC through UCP library Website (http://library.ucp.edu.pk/)
- Ask a librarian
- Finishing Corner
- Citation management software (Installation Help, Demo)
- Self-scanning system

- Researcher Corner
- Pakistan's Founders Corner
- Iran Shanasi Corner

### Meet Your Liaison Librarians

Librarians are trained professionals who are responsible to maintain, organize and manage the library to educate students continuously and assist in their self-improvement through an effective and prompt dissemination of information.



# University of Central Punjab

# FACULTIES







**Prof. Dr. Faisal Mustafa** Dean

Faculty of Management Studies is a brand name in the area of Management Sciences, trusted by a large number of people. It has a history of more than a quarter-century, a history of providing quality education and commitment to excellence. The faculty originated from Punjab College of Business Administration-PCBA (established in 1991), which was a hallmark of business education.

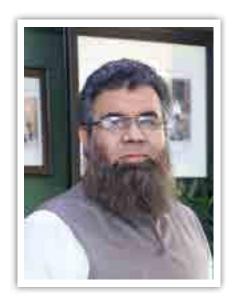
A highly qualified and competent team of teachers, state-of-the-art facilities, excellent research environment, both academic and physical resources to groom students are the salient features of this faculty. It is the pinnacle and the culmination of the untiring and focused efforts of Punjab Group of Colleges. This faculty has served the community with excellence for more than 25 years by providing business education at the tertiary level. Faculty of Management Studies of UCP is an internationally recognized institution of business education.

Before getting the charter of the University of Central Punjab on 16th April 2002, PCBA offered collaborative MBA programs with renowned universities of the world including Arkansas State University, USA, and Asian Institute of Technology, Bangkok. The University of Central Punjab was established under the Government of the Pun- jab. Faculty of Management Studies has expanded its scope by developing new study programs and setting more departments. Now the Faculty of Management Studies offers undergraduate, graduate and postgraduate programs in the fields of business, management, marketing, finance, and accounting. It offers numerous specializations related to these areas.

Faculty of management studies is one of the largest business schools in the country with over 3500 students enrolled in its various degree programs. Since then, the strategic renewal of the Faculty of Management Studies is going on. Recently, we have added several PhDs to our faculty and launched new specialized MS programs in four major functional areas of business, management, marketing, finance, and operations & supply chain management. Many minors in business and non-business fields have also been offered. Having professional links with several British and American universities such as the University of Stirling, University of Southern California and Arkansas State University, we have greatly benefited from the structures of their business schools and business curricula in our recent academic and administrative initiatives.

The crucial information about all of our programs is provided here to help you to decide which program suits you. If you have any further questions, our dedicated staff at the Admissions Office will assist you. We hope that you will consider UCP as your alma mater.





Prof. Dr. Ather Azim Khan Associate Dean Faculty of Management Studies

# Associate Dean's Message

UCP Business School is a part of the Faculty of Management Studies. The school offers Undergraduate, Graduate, and Postgraduate programs in business management and accounting and finance. We provide learning to our students keeping in view the market requirements and the developments that take place in the world from time to time. Courses are updated according to the everchanging business world and academia.

We emphasize in-depth teaching of courses to prepare our students to compete with the very best in the market. Students are provided with an overview of what is happening in the corporate world so that they get better prepared to face the emerging challenges of the business world. Our courses include IT components wherever necessary to equip our students with the practical tools needed in that area. Faculty members are highly qualified, competent, cooperative and are available every day to guide students after the regular classes in their counseling hours. UCP Business School provides a congenial yet challenging study environment for the students to pre-pare them to strive for a bright future. We are linked with international professional education bodies, which not only provide exemptions of courses but also financial benefits to students.

Further, research is given a lot of emphasis in the business school. MS and Ph.D. students regularly participate in the colloquium sessions to chisel their ideas and writings. The school also publishes three research journals, one of them is recognized by HEC as a Y-category journal.



Dr. Saqib Ilyas Head, BBA & BS Programs

The undergraduate Business Administration programs have been designed to prepare creative, resultoriented professionals for the practical world. Who are equipped with in-depth knowledge about the respective sectors and vested with multiple practical skills, teamwork and universal values required to cater for the needs of the current global economy. The main purpose of the program is to provide students with a management vision focused on current and future business life, and prepare them as prospective executives and entrepreneurs who will assume leadership roles in the business world.

Our undergraduate programs, both BBA (Hons.) and BS Accounting and Finance, aim to bring about an intellectual, personal and professional transformation of our students, making them competitive for professional careers in a dynamic world and

positively contribute to the society. The program enables them to learn core concepts in business knowledge and inspires them to think critically, analyze, communicate, and make adroit decisions guided by ethics. The faculty engaged in program delivery, strive to maintain high standards of teaching excellence driven by pedagogical innovation, synergies of competencies, school's values system and understanding of local as well as global realities.

We also emphasize on experiential and extra-curricular learning to cultivate the skills and competencies that can position students for professional success. Students learn through handson learning during classes, internships programs, volunteer work, student club activities, and other such experiences complementing their classroom learning. The prime goal is to prepare

the graduates in such a way that they are equipped with best knowledge, skills and confidence required for success from day one. With the highest number of undergraduate students in any business school of Pakistan, our faculty members are leaders as teachers, mentors and scholars. They are fully devoted to student success and to being role models in the society. They are advancing their fields of expertise by regularly publishing their research in the leading academic journals of their respective specializations. Bringing leading edge research experience to the classroom so that students benefit from most recent advancements in knowledge. Case based research and teaching methods are at forefront of our teaching pedagogy, making our programs unique in every specialization being offered.



Dr. Ageel Ahmad HoD Post Graduate **Programs** 

# HoD's Post Graduate Programs Message

Dear Knowledge Seekers:

Welcome to UCP-A university where you will experience and explore new ways of learning and meanings through course contents and with campus community inter- actions. Here you may unlearn and relearn to deploy your learning for higher market value. The program gives graduates an insight into modern management practices and provides an opportunity to develop the skills required for pursuing teaching & research careers and to manage organizations. The culture at UCP is based on productivity, cooperative competition, an open teacher-student dialogue and mutual caring and respect.

Our philosophy is that postgraduate students need the understanding and skills associated with high quality academic research. This approach applies equally to those who become either academic scholars or professional practitioners. In the knowledge based economy, quality of sensing, thinking and responding will give you the personal edge. At UCP, we will help you learn how to map, manage, measure and market your explicit and tacit knowledge.

We nurture our graduates by empowering them to realize their true research potential for their roles as academician and practitioners to make a meaningful contribution towards the progress of the community. We feel proud to share that our Post Graduate Programs are well appreciated by the Higher Education Commission of Pakistan.

Welcome again to UCP!



Dr. Rubeena Tashfeen HoD Graduate (MBA, MCom) Department

# HoD's Graduate Programs Message

The MBA program determines the prestige and reputation of any Business School worldwide. Similarly, the MBA program is the flagship program of the UCP Business School and is positioned as a premier MBA program with focus on excellence. We challenge our students to make a difference, and that is our competitive advantage. Our holistic developmental approach combines extra-curricular and co-curricular activities that drives students to think outside the box. The department provides opportunities to graduates to become critical thinkers, strategists and entrepreneurs, and inculcates leadership qualities to transform businesses into dynamic organizations in a fast changing environment. Through activities ranging from industry analysis, entrepreneurial endeavours and real-time projects, we provide students with an experiential learning experience.

The program is geared to introduce an up-to-date knowledge base with a futuristic outlook; develop the student's problem-solving capabilities; train them to recognize and evaluate emerging local and global trends in business environment; offer opportunities for students to refine and showcase their innovative ideas and make it part of their managerial repertoire; ensure that the curriculum is aligned with the current needs of the industry and serve as an instrument to bridge the gap between academia and industry.

We invite you to join us in our continued strive towards excellence with a first class international faculty. We look forward to working with industry, alumni and other stakeholders to continue enhancing value of our students, businesses, and community.



# Faculty Members

### Dr. Faisal Mustafa

PhD Business Intelligence (University of Huddersfield, UK) PGCE Higher Education (University of Essex, UK) PGCert. Higher Education (University of Huddersfield, UK) MSc Enterprise Systems (Bahria University, Islamabad) Provost/Dean-Faculty of Management Studies



#### Dr. Ather Azim Khan

PhD Microfinance (University of Central Punjab, Lahore) M.Phil Finance (University of Central Punjab, Lahore) FCMA (Institute of Cost & Management Accountants of Pakistan) Professor/Associate Dean-Faculty of Management Studies



Dr. M. Shafique Akhyar

PhD Statistics (Cornell University, NY, USA) MA Statistics (University of the Punjab, Lahore) Professor



Dr. Ahmed Faisal Imtiaz Siddiqi

PhD Statistics (Government College University, Lahore) MS Statistics (University of Michigan, Ann Arbor, USA) MSc Statistics (University of Punjab, Lahore) Professor



#### Dr. Qais Aslam

PhD Economics (University of National & World Economy, Sofia, Bulgaria) MSc International Economics (University of National & World Economy, Sofia, Bulgaria) LLB (University of the Punjab, Lahore) Professor



#### Dr. Rab Nawaz Lodhi

PhD Management (Bahria University Islamabad) MS Business Administration (Superior University, Lahore) B.COM (Hailey College of Commerce, Lahore) Associate Professor



#### Dr. Rubeena Tashfeen

PhD Accounting & Finance (Victoria University of Wellington, New Zealand) MBA Finance (University of South Florida, USA) MA (University of the Punjab, Lahore) Associate Professor



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Mr. Saadat Ullah Kirmani M.Phil Accounting & Finance (University of Central Punjab, Lahore) FCMA (Chartered Institute of Management Accountants, London, UK) Certified Internal Auditor (Institute of Internal Auditors, Florida, USA) Associate Professor



Dr. Ageel Ahmad PhD HRM (University Utara Malaysia, Malaysia) Masters HRM (University Utara Malaysia, Malaysia) MBA (Hamdard University, Pakistan) Associate Professor



Dr. Kanwal Zahra PhD Economics (Government College University, Lahore) M.Phil Economics (Government College University, Lahore) MA Economics (University of the Punjab, Lahore) Associate Professor



Dr. M. Nasir Malik PhD Management (Huazhong University of Science & Technology, China) Chartered Financial Analyst (CFA Institute, USA) MBIT (University of the Punjab, Lahore) Associate Professor



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Dr. Abdul Waheed

PhD Business & Economics (Maastricht University, Netherlands) MSc Econometrics and Mathematical Economics (Tilburg University, Netherlands) MSc Statistics (University of the Punjab, Lahore) Associate Professor



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PhD Industrial & Organizational Psychology Aix-Marseille Graduate School of Management - IAE) MS Human Resources Management (International Islamic University, Islamabad) BBA (International Islamic University, Islamabad) Associate Professor



#### Dr. Muhammad Zeeshan Shaukat

PhD Management (University Technology, Malaysia) MS HR (Superior University, Lahore) MS Electronic Commerce (University of the Punjab, Lahore) Associate Professor



#### Dr. Raja Irfan Sabir

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Mr. Kashif Butt MS Financial Risk Management (University of Connecticut, USA) Graduate Coursework Actuarial Science (University of Nebraska, USA) Assistant Professor



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Mr. Farrukh Igbal Masters in Quality & Operations Management (Chalmers University of Technology, Gothenburg, Sweden) MS Total Quality Management (University of Punjab, Lahore) BSc Metallurgical & Materials Engineering (University of Engineering & Technology, Lahore) Assistant Professor



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Dr. Muhammad Naeem



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PhD Mathematics for Economic & Financial Applications (Sapienza University of Rome, Italy) MS Techno-Mathematics (Lappeenranta University of Technology, Finland) MS Applied Mathematics (UET, Lahore)



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PhD Economics (Pakistan Institute of Development Economics, Islamabad)
MA Economics (University of the Punjab, Lahore)
Assistant Professor



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PhD HRM (Massey University, New Zealand)
PGD HRM (Massey University, New Zealand)
MBA (University of Wollongong, Australia)
BEng Chemical Engineering (University of the Punjab, Lahore)
Assistant Professor



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PhD Business & Management (The University of Melbourne, Australia)

Graduate Certificate Advanced Learning and Leadership (The University of Melbourne, Australia)

Masters in HRM (The University of Melbourne, Australia)

Assistant Professor



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PhD Mathematics (University of Engineering and Technology, Lahore)
M.Phil Applied Mathematics (University of Engineering & Technology, Lahore)
MSc Applied Mathematics (UET, Lahore)
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Dr. Muhammad Aslam Javed

PhD Mathematics (FAST-NUCES, Islamabad) MS Mathematics (FAST-NUCES, Islamabad)

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MCS, Computer Sciences (University of the Punjab, Lahore)
Assistant Professor



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Mr. Raheel Asghar Ginai

FAIA (Association of International Accountants, UK)

FCMA (Institute of Cost & Management Accountants of Pakistan)

FPFA (Pakistan Institute of Public Finance Accountants)

MSc (University of the Punjab, Lahore)

MA (University of the Punjab, Lahore)

Principal Lecturer



Mr. Sayyid Haider Mustafa Rizvi
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MSc Computer Science (University of the Punjab, Lahore)
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MBA Executive (University of Central Punjab, Lahore)
Lecturer



Ms. Syeda Uzma Tahira MS Supply Chain Management (UMT, Lahore) EMBA Finance & SCM (UMT, Lahore) MA Economics (University of the Punjab, Lahore) Lecturer



Mr. Talha Zubair Ahmad Khan MBA Finance (FAST-NU, Lahore) BBA Finance (Air University, Islamabad) Lecturer



Ms. Fagiha Mazhar MBA Marketing Management (Central Queensland University, Australia) MPA (University of the Punjab, Lahore) Lecturer



Ms. Iram Nazir
MA English Language Teaching (National University of Modern Languages, Islamabad)
Lecturer





Ms. Nahan Iqbal MS HR (Virtual University, Lahore) MBA Marketing (COMSATS Institute of Information Technology, Lahore) Lecturer



Ms. Saba Akram MA Public Relations & Organizational Communication (Montclair State University, USA) BS Mass Communication (University of Central Punjab, Lahore)



Ms. Shahzadi Mah Jabeen M.Phil English Language Teaching (Kinnaird College for Women, Lahore) PGD English Language Teaching (University of the Punjab, Lahore)

MA English Literature (University of the Punjab, Lahore) Lecturer



#### Sidra Nasreem

Lecturer

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Ms. Ambreen Khursheed MS Commerce (University of Central Punjab, Lahore) B.COM (Hons.) Commerce (University of Central Punjab, Lahore) Lecturer



Mr. M. Asad Tashfeen MA Globalization & Development (University of Warwick, UK) BSc (Hons.) Political Science (Lahore University of Management Sciences, Lahore) Lecturer



Ms. Mahwish Hassan M.Phil Statistics (Kinnaird College, Lahore) MSc Statistics (University of Peshawar, Peshawar) Lecturer



Ms. Madeeha Islam MS Finance (University of Central Punjab, Lahore) MBA Finance (University of the Punjab, Lahore) Lecturer



Mr. Salman Ahmed MBA (University of Huddersfield, UK) MCS (University of Central Punjab, Lahore) Lecturer



Ms. Eeshah Ahmed Taruque MSc Finance (The University of Manchester, UK) BSc (Hons.) Economics & Management (University College, Lahore) Lecturer



Mr. Nizam Feroze MSc Investment Analysis (Aston University, Birmingham, UK) BSc (Hons.) Money Banking & Finance (University of Middlesex, London, UK) Lecturer



Mr. Abid Rasheed

LLM Corporate & Commercial law (University of Lahore, Lahore) LLB (Bahauddin Zakariya University, Multan) MA English (University of the Punjab, Lahore) MS Financial & Legal Management (Thames Valley University, UK) Lecturer



Ms. Mariam Rao

M.Phil Finance (University of Central Punjab, Lahore) BS (Hons.) Business & Finance (Forman Christian College University, Lahore) Lecturer



Ms. Faiza Akhtar

MS Management Sciences (University of Central Punjab, Lahore) BBA HRM & Marketing (University of Central Punjab, Lahore) Lecturer



Mr. Ehtesham-Ul-Haq

MS Computer Science (University of Central Punjab, Lahore) B.COM (Punjab College of Commerce, Lahore) Lecturer



Mr. Arif Iftikhar

MPA Human Resource (University of the Punjab, Lahore) MCS (American International University, Pakistan) PGD Information Technology (CECOS London, UK) Lecturer



Mr. Syed Nabeel Haider

MSc Marketing (University of Bath, UK) BBA Marketing (Lahore School of Economics, Lahore) Lecturer

# Bachelor in Business Administration (BBA)

# **Admission Requirements**

- (i) Higher Secondary School Certificate or Equivalent securing at least second division in aggregate
- (ii) UCP admission test or HEC approved test

## Degree Requirements

Each candidate of BBA degree is required to complete 132 Cr. Hrs. with the minimum CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Core Courses	45
<i>b)</i>	Compulsory Courses	27
c)	General Courses	27
d)	Elective Courses	27
e)	Project	06
f)	Community Service	00
	Total	132

## a) Core Courses (45 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Human Resource Management	BAHR3303	3
Fundamentals of Management and Organization	BAMG2803	3
Business Strategy and Planning	BAHR3313	3
Fundamentals of Marketing	BAMK2103	3
Marketing Management	BAMK3113	3
Introduction to Financial Accounting	BAAC1203	3
Managerial Accounting	BAAC2213	3
Microeconomics for Business	BAEC1703	3
Macroeconomics for Business	BAEC2713	3
Financial Management	BAMG3813	3
Business Finance	BAAC2233	3
Entrepreneurship	BAMG3603	3
Fundamentals of Operation Management	BAMG2823	3
Business Statistics	BAAF2243	3
Quantitative Analysis	BAAF2253	3





# a) Compulsory Courses (27 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Basic English Writing	BAEL1003	3
English Reading & Comprehension	BAEL1013	3
Advance English Writing	BAEL1023	3
Communication Skills	BAEL2033	3
Basic Mathematics	BAMT1003	3
College Mathematics	BAMT1013	3
Introduction to Information Technology	BAIT1003	3
Islamic & Arabic Studies	BAHU1003	3
Pakistan Studies	BAHU2013	3

# c) General Courses (27 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Business and Ethics	BAHU1023	3
Human Behavior	BAMG3323	3
Law, Politics and Society	BALW2003	3
Research Methods in Social Science	<i>BAHU3033</i>	3
Pakistan Today	<i>BAHU1043</i>	3
Information Systems and Modern World	BAIT2013	3
Information Systems and Modern World	BAIT2013	3

### One Course from Each Group

Modern World History

one course from Each Group		
Group-I: Islamic History & Civilization		
Islamic History: The Umayyad and Abbasid Periods	<i>BAHU3053</i>	3
Islam and Modernity	<i>BAHU3063</i>	3
Modern Muslim World	<i>BAHU3073</i>	3
Group-II: Language and Literature		
English Literature	BAEL2043	3
Urdu Literature	BAEL2053	3
Study of Iqbal	BAEL2063	3
Chinese Language	BAEL2073	3
German Language	BAEL2083	3
French Language	BAEL2093	3
Arabic Language	BAEL2003	3
Group III: Social Sciences		
Logic	<i>BAHU3003</i>	3
Sociology	BAHU3013	3
Psychology	<i>BAHU3023</i>	3
Religion and Ethical Issues	<i>BAHU3043</i>	3

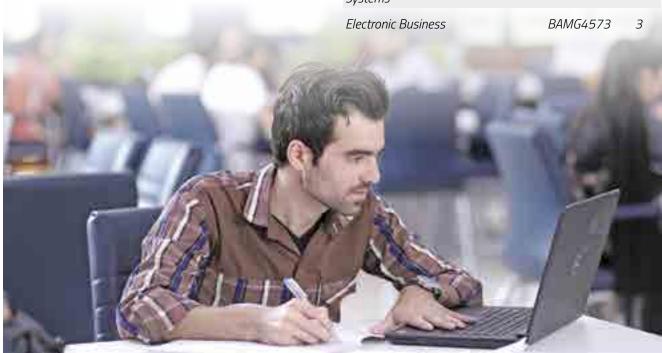
*BAHU3053* 

# a) Elective Courses (27 Cr. Hrs.)

Elective courses (one from each division: 15 Cr. Hrs.) / Specialization courses (four from area of specialization: 12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Management		
Leadership & Professional Development	BAMG4803	3
Compensation Management	BAMG4813	3
International Business	BAMG4823	3
International & Comparative Management	BAMG4833	3
Performance Management	BAMG4843	3
Training & Development	BAMG4853	3
Conflict Resolution	<i>BAMG4863</i>	3
Organizational Change and Development	BAMG4873	3
Negotiation and Dispute Resolution	BAMG4883	3
International Human Resource Management	BAHR4303	3
Recruitment and Selection	BAHR4313	3

Course Title	Code	Cr. Hrs.
Marketing		
Selling & Sales Management	BAMK4103	3
Consumer Behavior	BAMK4113	3
Marketing Research Design & Analysis	<i>BAMK4123</i>	3
Service Marketing	BAMK4133	3
Advertising & Promotion	BAMK4143	3
International Marketing	BAMK4153	3
Digital Marketing	BAMK4163	3
IOM		
Fundamentals of Supply Chain Management	BAMG4503	3
Retail Supply Chain Management	BAMG4513	3
Transportation and Distribution Planning	BAMG4523	3
Supply Chain Sourcing	BAMG4533	3
Production Management	BAMG4543	3
Project Management	BAMG4893	3
Enterprise Resource Planning Fundamentals	BAMG4553	3
Business Process Development	BAMG4563	3
Human Resource Information Systems	BAHR4323	3
Electronic Business	BAMG4573	3



Course Title	Code	Cr. Hrs.
Entrepreneurship		
Entrepreneurial Marketing	BAMG4603	3
Entrepreneurial Finance	BAMG4613	3
Idea Generation & Creativity	BAMG4623	3
Entrepreneurial Practicum	BAMG4633	3
Business Model Development & Innovation	BAMG4643	3
Small and Medium Enterprise Management	BAMG4653	3
Finance		
Investment Analysis	BAAF4203	3
Islamic Finance	BAAF4213	3
Capital Budgeting	BAAF4223	3
Financial Markets & Institutions	BAAF4233	3
International Finance	BAAF4243	3
Financial Statement Analysis	BAAF4253	3
Commercial Banking	BAAF4263	3
Tax Management	BAAF4273	3

# b) Project (06 Cr. Hrs.)

After the completion of 90 Cr. Hrs., the students are required to demonstrate their skills in the field of Business Administration by designing and implementing a project worth 6 Cr. Hrs. The project shall be completed in two parts as given be-low:

Course Title	Code	Cr. Hrs.
Project I	BA4912	3
Project II	BA4924	3

## c) Community Service (BA3000)

Each Student is required to complete 65 hours voluntary work, usually after 4th semester which would be a prerequisite for the award of degree.

#### **Program Duration**

This is a four years degree program comprising of 8 semesters. There is a Fall and a Spring semester in each year. The summer semester is utilized for deficiency courses. The maximum du-ration to complete the BBA program is 7 years.



# Scheme of Studies Bachelor in Business Administration (BBA)

#### Semester I (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BAMT1003	Basic Mathematics	Compulsory	3
BAIT1003	Introduction to IT	Compulsory	3
BAHU1023	Business and Ethics	Genral	3
BAEL1013	English Reading & Comprehension	Compulsory	3
BAEL1003	Basic English Writing	Compulsory	3

#### Semester II (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BAMT1013	College Mathematics	Compulsory	3
BAAC1203	Introduction to Financial Accounting	Core	3
BAEC1703	Microeconomics for Business	Core	3
BAHU1043	Pakistan Today	General	3
BAEL1023	Advanced English Writing	Compulsory	3
BAHU1003	Islamic & Arabic Studies	Compulsory	3

#### Semester III (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BAHU2013	Pakistan Studies	Compulsory	3
BAAC2213	Managerial Accounting	Core	3
BAEC2713	Macroeconomics for Business	Core	3
BAAF2243	Business Statistics	Core	3
BAEL2033	Communication Skills	Compulsory	3
BALW2003	Law, Politics and Society	General	3

#### Semester IV (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BAMK2103	Fundamentals of Marketing	Core	3
BAIT2013	Information Systems and Modern World	General	3
BAAC2233	Business Finance	Core	3
BAAC2253	Qualitative Analysis	Core	3
BAMG2803	Fundamentals of Management & Organi-zation	Core	3
BAEL2xx3	(Group-II) Language & Literature	General	3

# Scheme of Studies Bachelor in Business Administration (BBA)

### Semester V (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BAHR3303	Human Resource Management	Core	3
BAMG3813	Financial Management	Core	3
BAMK3113	Marketing Management	Core	3
BAMG2823	Fundamentals of Operations Management	Core	3
BAHU3xx3	(Group-I) Islamic History	General	3

#### Semester VI (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BAMG3323	Human Behavior	General	3
BAHU3033	Research Methods in Social Science	General	3
BAHR3313	Business Strategy & Planning	Core	3
BAMG3603	Entrepreneurship	Core	3
BAHU3xx3	(Group-III) Social Sciences	General	3

#### Semester VII (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BAMK4xx3	Elective I (Marketing)	Elective	3
BAAF4xx3	Elective II (Finance)	Elective	3
BAHR4xx3	Elective III (HRM)	Elective	3
BAMG4xx3	Elective IV (IOM)	Elective	3
BAMG4xx3	Elective V (Entrepreneurship)	Elective	3
BA4912	Project I	Project	3

### Semester VIII (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BAXX4xx3	Major I	Specialization	3
BAXX4xx3	Major II	Specialization	3
BAXX4xx3	Major III	Specialization	3
BAXX4xx3	Major IV	Specialization	3
BA4914	Project II	Project	3



# Master in Business Administration (MBA)

## **Admission Requirements**

- (i) A minimum of 16 years of education leading to BBA / BS in relevant discipline
- (ii) Minimum 2.00 CGPA on the scale of 4.00 or 50% marks in annual system
- (iii) UCP Admission Test/HEC Approved Test

## Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate of Master in Business Administration degree is required to complete 30 Cr. Hrs. as per the following detail:

	Area	Cr. Hrs.
a)	Core Courses	09
<i>b)</i>	Elective Courses	15
c)	Research Thesis/Project/Additional Courses	06
	Total	30

### a) Deficiency Courses

Course Title	Code	Cr. Hrs.
Introduction to Financial Accounting	BAAC1203	3
Microeconomics for Business	BAEC1703	3
Fundamentals of Management & Organization	BAMG1803	3
Introduction to Information System	BAMG1813	3
Fundamentals of Marketing	BAMK2103	3



Course Title	Code	Cr. Hrs.
Entrepreneurship		
Techno Entrepreneurship	BAMG5603	3
Social Entrepreneurship	BAMG5613	3
Legal Aspect of Entrepreneurship	BAMG5623	3
Corporate Entrepreneurship	BAMG5633	3
Entrepreneurship & New Venture-II	BAMG5683	3
Management		
International Strategic Management	BAMG5813	3
Innovation Strategy and Management	BAMG5823	3
Managing Family Business	BAMG5833	3
Power & Politics in Organization	BAMG5843	3
Applied Portfolio Management	BAMG6853	3
Enterprise Risk Management	BAMG5853	3
Derivatives and Risk Management	BAMG5893	3
Enterprise System	BAMG5863	3

Course Title	Code	Cr. Hrs.
Production and Operation Management	BAMG5873	3
Management Information System	BAMG6883	3
Business Process Management	BAMG6893	3

### c) Research Thesis

Course Title	Code	Cr. Hrs.
Research Thesis	BA6916	6
Thesis Continuation	BA6921	1

### CGPA Requirement

A student is required to earn a minimum of 2.50/4.00 CGPA on the completion of his/her degree requirements.

### **Program Duration**

This is nominally a two-year degree program comprising of 4 semesters. There will be a Fall and a Spring semester in each year. The maximum duration to complete Master Business Administra-tion degree is 04 years.

# Master in Business Administration (MBA) For Non Business Graduates

# **Admission Requirements**

- (i) A minimum of 16 years of education leading to MA/MSc/ BS/BEng/BA(Hons) degree in any discipline
- (ii) Minimum 2.00 CGPA on the scale of 4.00 or 50% marks in annual system
- (iii) UCP Admission Test/HEC Approved Test

### Degree Requirements

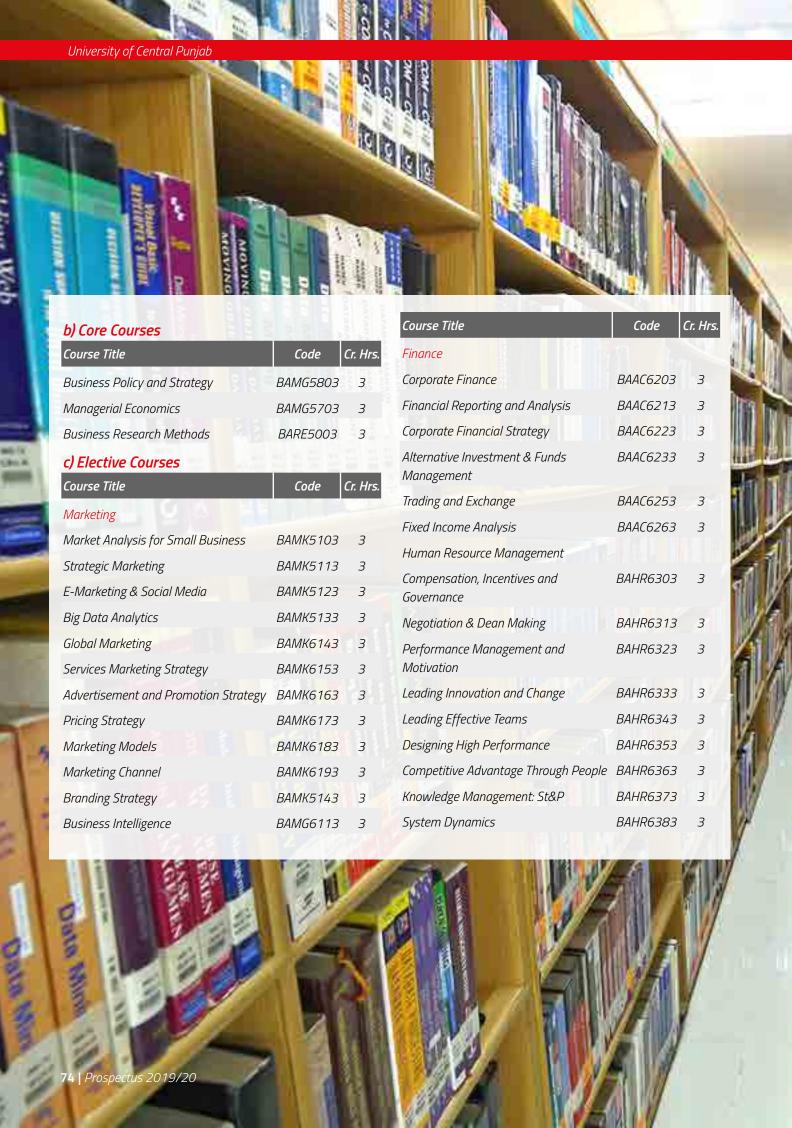
Each candidate of Master in Business Administration degree is required to complete 66 Cr. Hrs. as per the following detail:

	Area	Cr. Hrs.
a)	Deficiency Courses	36
b)	Core Courses	09
c)	Elective Courses	15
d)	Research Thesis/Project/Additional Courses	06
	Total	66

# a) Deficiency Courses

Course Title	Code	Cr. Hrs.
Introduction to Financial Accounting	BAAC1203	3
Microeconomics for Business	BAEC1703	3
Fundamentals of Management & Organization	BAMG1803	3
Introduction to Information System	BAMG1813	3
Fundamentals of Marketing	BAMK2103	3
Business Finance	BAAC2233	3
Principles of Macroeconomics	BAEC2713	3
Introduction to HRM	BAHR2303	3
Operations Management	BAMG2823	3
Marketing Management	BAMK3113	3
Financial Management	BAMG3813	3
Organizational Behavior	BAMG2803	3









Course Title	Code	Cr. Hrs
Supply Chain Management		
Logistics Management	BAMG6503	3
Supply Management	BAMG6513	3
Managing Supply Chain	BAMG6523	3
Supply Chain Strategies	BAMG6533	3
New Product Development	BAMG6543	3
Entrepreneurship		
Techno Entrepreneurship	BAMG5603	3
Social Entrepreneurship	BAMG5613	3
Legal Aspect of Entrepreneurship	BAMG5623	3
Corporate Entrepreneurship	BAMG5633	3
Entrepreneurship & New Venture-II	BAMG5683	3
Management		
International Strategic Management	BAMG5813	3
Innovation Strategy and Management	BAMG5823	3
Managing Family Business	BAMG5833	3
Power & Politics in Organization	BAMG5843	3
Applied Portfolio Management	BAMG6853	3
Enterprise Risk Management	BAMG5853	3

Course Title	Code	Cr. Hrs.
Derivatives and Risk Management	BAMG5893	3
Enterprise System	BAMG5863	3
Production and Operation Management	BAMG5873	3
Management Information System	BAMG6883	3
Business Process Management	BAMG6893	3

### d) Research Thesis

Course Title	Code	Cr. Hrs.
Research Thesis	BA6916	6
Thesis Continuation	BA6921	1

### **CGPA** Requirement

A student is required to earn a minimum of 2.50/4.00 CGPA on the completion of his/her degree requirements.

### **Program Duration**

This is nominally a two and half years degree program comprising of 5 semesters. There will be a Fall and a Spring semester in each year. The maximum duration to complete Master Business Administration degree is 04 years.





# MS Business Administration

### Admission Requirements

- (i) A minimum of 16 years of education leading to BBA / BS in relevant discipline
- (ii) Minimum 2.00/4.00 CGPA or 50% marks in annual system
- (iii) Admission Test/HEC Approved Test

## Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- (i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate of MS Business Administration degree is required to complete 30 Cr. Hrs. as per the following detail:

	Area	Cr. Hrs.
a)	Core Courses	12
b)	Elective Courses	12
c)	Research Thesis/Project/Additional Courses	06
	Total	30

### a) Core Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Quantitative Research Method	BAMG5003	3
Qualitative Research Approaches	BAMG5013	3

Organizational Theory and Design	BAMG5813	3
Multivariate Data Analysis	BAAC6203	3

### b) Elective Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Integrated Marketing Communications	BAMK6103	3
Applied Corporate Brand Management	BAMK6113	3
Special Topics in Marketing	BAMK6123	3
Seminars in Consumer Behavior	BAMK6133	3
Advance Topics in International Finance	<i>BAAC5203</i>	3
Contemporary Methods of Data Analysis	BAAC5213	3
Product Pricing Decisions: Concepts and Application	BAAC5223	3
Applied Portfolio Management	BAAC5233	3
Theory of Corporate Finance	BAAC6203	3
Asset Pricing Theory	BAAC6213	3
Course Title	Code	Cr. Hrs.
Options and Derivatives	BAAC6223	3
Special Topics in Finance	BAAC6233	3
Financial Risk Management	<i>BAAC6243</i>	3



Risk Management and Insurance	BAAC6253	3
Financial Market Analysis	BAAC6263	3
Human Resource Management Strategy & Practices	<i>BAHR5303</i>	3
Human Behavior in Organizations	<i>BAHR6393</i>	3
Distribution Strategy and Supply Chain Management	BAMG6503	3
Operations Management Theory and Practice	<i>BAMG6513</i>	3
Designing and Managing Supply Chains	BAMG6523	3
Enterprise Information Systems	BAMG6533	3
Business Process Strategy Management	BAMG6543	3
<b>0</b> 7	BAMG6543 BAMG6553	<i>3</i>
Management	2,, 665 , 5	J
Management Logistic Strategy and Logistic Systems	BAMG6553	3
Management  Logistic Strategy and Logistic Systems  Inventory Control and Warehouse  Seminar in Innovation and	BAMG6553 BAMG6563	3
Management  Logistic Strategy and Logistic Systems  Inventory Control and Warehouse  Seminar in Innovation and  Entrepreneurship	BAMG6553 BAMG6563 BAMG6603	3 3 3
Management  Logistic Strategy and Logistic Systems  Inventory Control and Warehouse  Seminar in Innovation and Entrepreneurship  Course Title	BAMG6553 BAMG6563 BAMG6603 Code	3 3 3 Cr. Hrs.

Special Topics in Management	BAMG6863	3
Seminar in Corporate Strategy	BAMG6873	3
Organizational Change & Development	t BAMG6883	3
Advanced Performance Management	BAMG6893	3

### c) Research Thesis

Course Title	Code	Cr. Hrs.
Research Thesis	BA6916	6
Thesis Continuation	BA6921	1

# CGPA Requirement

A student is required to earn a minimum of 2.50/4.00 CGPA on the completion of his/her degree requirements.

# **Program Duration**

This is nominally a two-year degree program comprising of 4 semesters. There will be a Fall and a Spring semester in each year. The maximum duration to complete MS Business Administration degree is 04 years.

# PhD in Business Administration

Ph.D. in Business Administration is designed to create an insight into modern management prac-tices and provides an opportunity to develop the skills required for pursuing teaching & research careers and to manage organizations. The culture at UCP is based on productivi-ty, cooperative competition, open teacher-student dialogue, and mutual caring and respect. Our phi-losophy is that postgraduate students need the understanding and skills associated with high-quality academic research. This approach applies equally to those who become either aca-demic scholars or professional practitioners. In the knowledge-based economy, the quality of sensing, thinking, and responding will give you a personal

edge. Ph.D. program we will help you learn how to map, manage, measure, and market your explicit and tacit knowledge. We nurture our graduates by empowering them to realize their true research potential for their roles as academicians and practitioners to make a meaningful contribution to the progress of the community.

### Admission Requirements

- (i) MS / MBA degree in the relevant discipline
- (ii) Minimum CGPA 3.00/4.00 (Semester System) or 60% marks (Annual System)
- (iii) Admission Test/HEC Approved Test
- (iv) Interview

### Degree Requirements

A PhD candidate shall be awarded degree on successful completion of the following requirements:

- (i) 18 Cr. Hrs. Course Work with minimum CGPA 3.00/4.00
- (ii) Comprehensive Examination (written and oral)
- (iii) Synopsis Defense
- (iv) 30 Cr. Hrs. Research Work
- (v) Publication of at least one research paper in HEC approved journal
- (vi) Dissertation Foreign Reviews
- (vii) Dissertation Final Defense

**Note:** PhD scholars are required to comply with the following timeline:

Activity	Preferred Time	Maximum
Course Work	2 Semesters	3 Semesters
Comprehensive Exam	3 Semesters	4 Semesters
Synopsis Qualification	4 Semesters	6 Semesters
Thesis Submission	6 Semesters	14 Semesters (7 Years)





# **BS Accounting and Finance**

# **Admission Requirements**

- Higher Secondary School Certificate or Equivalent securing at least 45% marks in aggregate
- (ii) UCP admission test or HEC approved test

# Degree Requirements

Each candidate of BS Accounting and Finance degree is required to complete 126 Cr. Hrs. with the minimum CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Compulsory Courses	24
b)	General Courses	09
c)	Foundation Courses	30
d)	Core Courses	21
e)	Elective Courses	15
f)	Specialization Courses	21
g)	Project	06
h)	Community Service	00
	Total	126

### a) Compulsory Courses (24 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Functional English	AFEL1003	3
Fundamentals of Information Systems	AFIT1403	3
Quantitative Methods	AFMT1003	3
Business Statistics	AFMT1013	3
Business Communication	AFHU2003	3
Principles of Economics	AFEC2703	3
Islamic Studies/Ethics (for Non-Muslims)	AFHU2013	3
Pakistan Studies	AFHU3023	3

### b) General Courses (09 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Governance, Risk & Ethics	AFMG3833	3
Introduction to Sociology	AFHU3043	3
Foreign Language	AFEL4013	3

### c) Foundation Courses (30 Cr. Hrs.)

Code	Cr. Hrs.
AFMG1803	3
AF1203	3
AF1213	3
AFLW1003	3
AFHR1303	3
AFMK1103	3
AF3313	3
AFLW3013	3
AF3223	3
AFRE4043	3
	AFMG1803 AF1203 AF1213 AFLW1003 AFHR1303 AFMK1103 AF3313 AFLW3013 AF3223

### d) Core Courses (21 Cr. Hrs.)

u) core courses (2 r ci. rirs.)		
Course Title	Code	Cr. Hrs.
Taxation Management	AFMG1813	3
Performance Management	AFMG2823	3
Financial Management	AFMG2833	3
Financial Reporting	AF2233	3
Corporate Law	AFLW2023	3
Investment Appraisal	AF2243	3
Audit & Assurance	AF2253	3

### e) Elective Courses (15 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Business Analysis	AFMG3833	3
Strategic Planning	AFMG3843	3

Course Title	Code	Cr. Hrs.
Enterprise Resource Planning	AFMG4603	3
Entrepreneurship	AFMG4613	3
Organizational Behavior	AFMG4853	3

### f) Specialization Courses (21 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Financial Analysis	AF3263	3
Advanced Corporate Reporting	AF3323	3
Investment and Portfolio Management	AFMG4863	3
Performance Strategy	AFHR4333	3
Advanced Performance Management	AFMG4873	3
Audit Reporting	AF4273	3
Advanced Audit & Assurance	AF4283	3

### g) Project (06 Cr. Hrs.)

After the completion of 90 Cr. Hrs., the students are required to demonstrate their skills in the field of Accounting and Finance by designing and implementing a project worth 6 Cr. Hrs. The project shall be completed in two parts as given below:

Course Title	Code	Cr. Hrs.
Project I	AF4912	3
Project II	AF4924	3

### h) Community Work (AF3000)

Each student is required to complete 65 hours of community work, usually after 4th semester which would be a prerequisite for the award of degree.

### **Program Duration**

This is a four years degree program comprising of 8 semesters. There is a Fall and a Spring semester in each year. The Summer semester is utilized for Internship or deficiency courses. The maximum duration to complete the BS Accounting & Finance program is 7 years.

# Scheme of Studies BS Accounting and Finance

### Semester I (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
AFEL1003	Functional English	Compulsory	3
AFMG1803	Principles of Management	Foundation	3
AF1203	Financial Accounting	Foundation	3
AFMT1003	Quantitative Methods	Compulsory	3
AFIT1403	Fundamentals of Information Systems	Compulsory	3

### Semester II (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
AFMT1013	Business Statistics	Compulsory	3
AF1213	Cost & Management Accounting	Foundation	3
AFLW1003	Business Law	Foundation	3
AFHR1303	Human Resource Management	Foundation	3
AFMG1813	Taxation Management	Core	3

### Semester III (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
AFHU2003	Business Communication	Compulsory	3
AFMG2823	Performance Management	Core	3
AFEC2703	Principles of Economics	Compulsory	3
AFMG2833	Financial Management	Core	3
AF2233	Financial Reporting	Core	3

### Semester IV (15 Cr. Hrs.)

	······································		
Course Code	Course Title	Category	Cr. Hrs.
AFMK1103	Principles of Marketing	Foundation	3
AFLW2023	Corporate Law	Core	3
AF2243	Investment Appraisal	Core	3
AF2253	Audit & Assurance	Core	3
AFHU2013	Islamic Studies/Ethics	Compulsory	3

# Scheme of Studies BS Accounting and Finance

### Semester V (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
AFHU3023	Pakistan Studies	Compulsory	3
AF3313	Corporate Reporting	Foundation	3
AFMG3833	Governance, Risk & Ethics	General	3
AFMG3833	Business Analysis	Elective	3
AFMG3843	Strategic Planning	Elective	3

### Semester VI (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
AFLW3013	Banking Laws and Practices	Foundation	3
AF3263	Financial Analysis	Specialization	3
AF3323	Advanced Corporate Reporting	Specialization	3
AF3223	Computerized Accounting	Foundation	3
AFHU3043	Introduction to Sociology	General	3

### Semester VII (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
AFEL4013	Foreign Language	General	3
AFRE4043	Research Methods in Business	Foundation	3
AFMG4863	Investment and Portfolio Management	Specialization	3
AFHR4333	Performance Strategy	Specialization	3
AFMG4873	Advanced Performance Management	Specialization	3
AF4912	Project I	Project	3

### Semester VIII (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
AFMG4603	Enterprise Resource Planning	Elective	3
AFMG4613	Entrepreneurship	Elective	3
AF4273	Audit Reporting	Specialization	3
AF4283	Advanced Audit & Assurance	Specialization	3
AFMG4853	Organizational Behavior	Elective	3
AF4914	Project II	Project	3

# MS Accounting and Finance

### Admission Requirements

- (i) A minimum of 16 years of education leading to BS in relevant discipline
- (ii) Minimum 2.00/4.00 CGPA or 50% marks in annual system
- (iii) Admission Test/HEC Approved Test

### Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- (i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate of MS Accounting and Finance degree is required to complete 30 Cr. Hrs. as per the following detail:

	Area	Cr. Hrs.
a)	Core Courses	12
b)	Elective Courses	12
c)	Thesis/project/Additional Courses	6
	Total	30

### a) Core Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Advanced Research Methodology	AFRE5013	3
Econometrics	AFEC5713	3
Inferential Statistics	AFMT5023	3
Research Methods & Manuscript Writing	AFRE5033	3

### b) Elective Courses (12 Cr. Hrs.)

Students have to take 4 courses, each of 3 Cr. Hrs., i.e. 12 Cr. Hrs. from the following list of cours-ers

Code	Cr. Hrs.
AF5213	3
AF5223	3
AF5233	3
AF5243	3
AF5253	3
AF6213	3
AF6223	3
AF6233	3
AFMG5813	3
AFMG5823	3
AFMG6813	3
AFMG6823	3
	Code  AF5213  AF5223  AF5233  AF5243  AF5253  AF6213  AF6223  AF6233  AFMG5813  AFMG5823  AFMG6813

### c) Research Thesis

Course Title	Code	Cr. Hrs.
Research Thesis	AF6916	6
Thesis Continuation	AF6921	1

### CGPA Requirement

A student is required to earn a minimum of 2.50/4.00 CGPA on the completion of his/her degree requirements.

### **Program Duration**

This is nominally a two-year degree program comprising of 4 semesters. There will be a Fall and a Spring semester in each year. The maximum duration to complete MS Accounting & Finance degree is 04 years.





# PhD in Accounting and Finance

Accounting and finance play an important role within the management of any business and finance industry. Our PhD program provides rigorous academic and research training aimed at preparing scholars to pursue their career in finance sector and will be able to lead in public and private spheres. Our research program will also provide an opportunity to perform research in the areas of Accounting, Finance, Audit, Taxation, Banking, and other related fields. Supervised research will also implant skills of financial accounting, public accounting, environment accounting, tax accounting and expertise of financial econometrics, financial forecasting, and financial engineering.

# Admission Requirements

- M.Sc. degree in relevant discipline
- (ii) Minimum CGPA 3.00/4.00 (Semester System) or 60% marks (Annual System)
- (iii) Admission Test/HEC Approved Test
- (iv) Interview

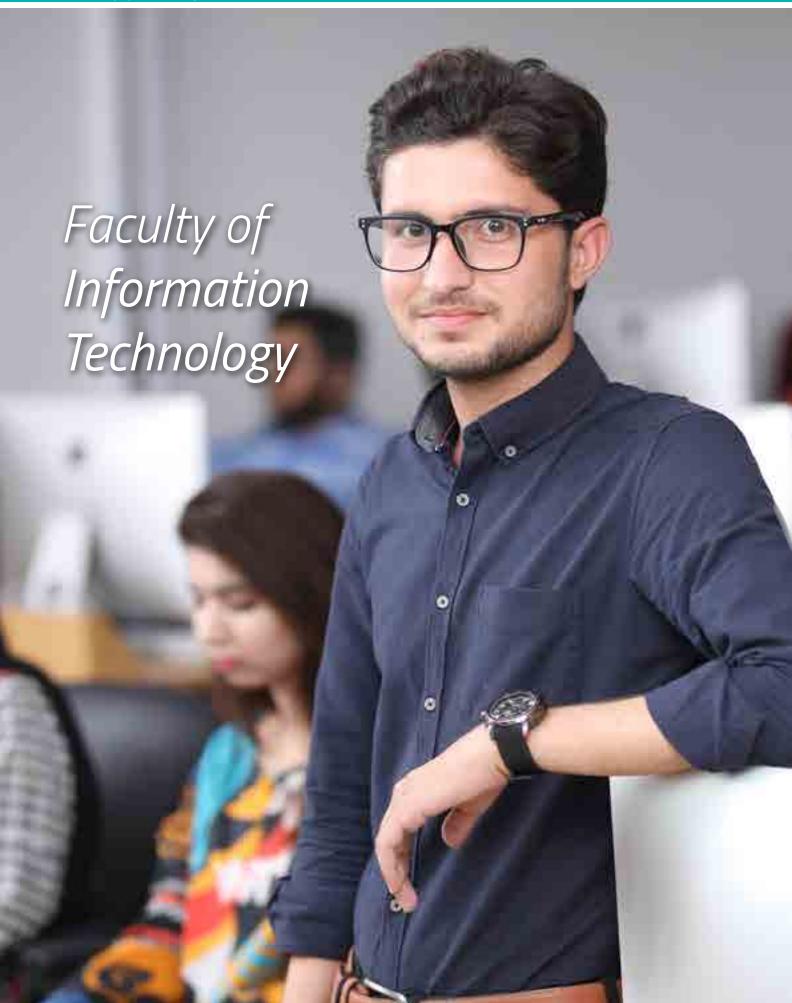
# Degree Requirements

A PhD candidate shall be awarded degree on successful completion of the following requirements:

- 18 Cr. Hrs. Course Work with minimum CGPA 3.00/4.00
- Comprehensive Examination (written and oral)
- (iii) Synopsis Defense
- (iv) 30 Cr. Hrs. Research Work
- (v) Publication of at least one research paper in HEC approved journal
- (vi) Dissertation Foreign Reviews
- (vii) Dissertation Final Defense

**Note:** PhD scholars are required to comply with the following timeline:

Activity	Preferred Time	Maximum
Course Work	2 Semesters	3 Semesters
Comprehensive Exam	3 Semesters	4 Semesters
Synopsis Qualification	4 Semesters	6 Semesters
Thesis Submission	6 Semesters	14 Semesters (7 Years)





We have made major strides in 2019-2020 - achieving significant improvements in the quality of teaching and increasing the breadth and inter-disciplinary nature of the research portfolio of the faculty. Our plans for the coming year are even more ambitious. Our existing research centers continue to mature while the groundwork for new ones is in process. All research activities, at FoIT, are geared to realize our primary mission: analyze and diagnose problems encountered in the real world, conduct research and develop innovative, independently verifiable solutions. We bring the perspectives and powerful techniques of Computer Science to bear on Pakistan's particular socioeconomic challenges, particularly in the fields of data science, game design, health care and campus security. In the process, we are further strengthening our linkages, both with the software industry and with institutions of higher education in Pakistan and abroad.

These improvements translate into a new breed of computer science graduates, young women and men brimming over with energy, ambitious in their objectives, clear on the nature of the challenges facing society and quick to learn new concepts and technologies and thrive in challenging circumstances. Furthermore, we are striving to bring in guest speakers from the industry and develop a relationship with the industry expert. That relationship will provide various opportunities for our students to learn about state of the art, cutting edge technologies.

FolT has been consistently achieving significant improvements in the quality of both undergraduate and postgraduate education by introducing emerging technologies to increase the breadth and depth of taught courses and research. The efforts have been highly applauded by the professional industry and research communities,

thus, encouraging us to plan even more ambitiously for the coming year. Our state-of-the-art research centers continue to mature while the groundwork for new ones is in process. The novel initiatives undertaken by the FoIT focus on addressing the issues specific to the socioeconomic challenges and problems of Pakistan. We bring the perspectives and powerful techniques of computer science to the fields of data science, game design, learning design, health care, robotics and campus security. Our collaborations with national and international partners promise independently verifiable materialization of our vision to make Pakistan a leader in computer science and software development.

Our major source of strength is the competent, experienced and qualified members of faculty at FoIT. All faculty members continuously engage themselves in efforts to provide a quality learning experience to the students. We are proud to have introduced an indigenously developed process to monitor students' progress on daily basis and enabling teachers to respond effectively and efficiently to any learning difficulties faced by the students. These improvements, brought in through the untiring efforts of our team, envisage a new breed of computer science graduates - competent young women and men with a vision and full of purpose, to innovate and excel, to solve socio-economic problems of Pakistan, make significant contribute towards Pakistan's progress and prosperity. Furthermore, we at FoIT believe in contributing to the local communities and to make a difference. We have been, with the help our students, conducting robotics workshop for local school students. This year we are planning to offer workshops in Machine Learning, Robotics, Computer Vision and Image Processing, providing an opportunity for our students to contribute and make a difference in the education of our youth.

I am sure that our students will prove themselves in all challenging circumstances owing to the rigor and quality of education, a hallmark of FoIT. I invite you to join us on this fascinating and exciting journey, unlock your potential, shrug of the conventional approaches and boldly create new realities and new opportunities for the next generations.



Dr. Muhammad Amjad Iqbal Associate Dean

Faculty of Information Technology (FoIT) is one of the rapidly growing faculties at UCP. FoIT is offering programs in Computer Sciences, Software Engineering and Data Sciences at Undergraduate, Graduate and Postgraduate levels.

Programs being offered by the faculty have been developed to fulfill the requirements of relevant standardization bodies like HEC and NCEAC, while meeting the industry needs. We are providing the best learning experience with state-of-the-art laboratories, classrooms and conducive environment for imparting knowledge. We have highly qualified faculty members graduated from top notch institutes of Pakistan and the world as well. Our faculty has specialized knowledge and skills in diversified disciplines, to prepare students for facing world challenges by imparting most recent knowledge and practical problem solving.

We have been creating new knowledge by emphasizing the research component in the graduate studies and the faculty as well. We are doing research in the Computer Science in variety of domains like, Medical Image Processing, Machine Learning, Networks & Communication, Embedded Systems & Robotics to name a few.

I welcome you all to be part of a vibrant and diversified faculty of Information Technology to brighten up your future and opening horizons of opportunities.

# Research Centers at the Faculty of Information Technology

The strength of FoIT is its highly qualified faculty - with specialized training in various fields of Computer Science from renowned universities of USA, Australia, UK, Swe-den, France, Switzerland and Austria dedicated to produce graduates and researchers with exceptional theoretical and practical skills in the field of Computer Science. The guidance and support extended by the faculty and administration during the entire learning experience of students has produced outstanding professionals, researchers and educators who are providing

services in renowned national and international organizations.

Our well-equipped laboratories and state-of-the-art research facilities play a key role in the training and development of IT professionals. To facilitate this process of learning in theoretical and experimental skills, we have project-based as well as generalpurpose laboratories. To facilitate R&D activities, faculty members and students are fully supported by the following research and development centers.

To make a meaningful impact on the IT industry, academia, and local communities, the Faculty of IT has launched six centers. These research and development centers are conducting research and developing cutting-edge solutions with the potential to transform the growing field of IT. A productive research is in progress in the areas of Machine Learning, Data Analytics, Health care, Robotics, Embedded Systems, Mathematics, Information Retrieval and Internet of Things. A brief description of these centers is as follows:

# Centre for Learning & Design

By leveraging technology, we can transform the educational landscape of Pakistan and make education more effective, accessible and affordable for all students. With this vision, the Faculty of IT at UCP launched the Center for Learning Design in March 2016. The Center aims to radically change the field of education and revolutionize

the methods of imparting education and facilitates students at all levels of educational attainment with special attention paid to developing affordable educational tools and applications using m-learning concepts for students from under-serviced communities. The Centre has been able to developed tools aiding in teaching English language.

Evaluation feedback is the key element in driving the learning methodologies. A Classroom Auto-response system is designed to facilitate early feedback to students for supporting the classroom teaching and evaluation.





# Center for Game Design

The Faculty of IT at UCP has launched Pakistan's first game design center to facilitate students who want to specialize in game design, especially in the EdTech space. This first of its kind center is helping further to diversify the IT industry of Pakistan to enter the global game design market and building linkages between the computer game industry, computer scientists and instruction designers in academia. The primary focus of this Center is on developing educational games and learning applications that provide an immerse experience where learners gain an intuitive understanding of critical building blocks in mathematics, kinematics and language learning. These solutions are currently being refined using feedback from the target user base - students, primarily in grades 6 through 8.

In addition to introducing game design programs at multiple levels of education, the Center aims to conduct research and support entrepreneurs to promote the local game industry. It supports individuals who aspire to become entrepreneurs by providing them with various resources, mentorship and even in developing and marketing their products. The Center provides the perfect platform to students from all disciplines to start their careers in the computer game industry.

# Center for Health Care **Modeling & Informatics**

The Faculty of IT at UCP has initiated state-of-the-art informatics research for improving public health practices across a number of methodological disciplines, particularly Health Informatics, Bioinformatics, Biostatistics, Machine Learning, Computer Vision, Computer Science and Software Engineering. The focus of the research within the Centre is on development of intelligent solutions at undergraduate, graduate and PhD levels to support evidence-based healthcare and to develop methodologies for utilizing Information and Communication Technologies to improve the quality of healthcare.

The Center, hence, provides an e-infrastructure for health research, connecting a rich variety of investigators (clinical, public health and health services, computer scientists and engineers) with relevant analytical and modeling tools and large-scale aggregations of data, to establish broad-range medical applications..



# Conseil for Mathematics, Teaching and Research

Major challenge universities around the world face, is poor learning achievement in mathematics courses. The faculty recognizes this fundamental problem and has moved to address it with the establishment of the Centre for Mathematics Teaching and Research, the first of its type in our country. We believe that every student in Pakistan can learn mathematics - appreciate the beauty behind it and use it to solve daily life as well as challenging problems. We find a general disconnect between abstract representations and the range of real-life scenarios that such representations apply to. This is a direct consequence of the prevalent attitude towards teaching and assessment with its focus on formulae, numerical accuracy and correct application of prescribed method.

The Center aims to re-introduce the sheer, joy of learning in a new and incredibly powerful language.

We are thus aligned with David Wheeler's succinct statement of intent; it is "more useful to know how to mathematize than to know a lot of mathematics".

# Centre for Robotics & Security

The Center for Robotics & Security focuses on solving real-life challenges and enabling students to hone their skills with hands-on experience. At the Centre, students experiment with land-based and aerial robots, building machines with increasing levels of sophistication, such that the most advanced models, incorporating artificial intelligence, can play football or undertake surveillance tasks. The designing, modeling and controlling methods taught at the Center equip the students with the skill set to enter the industry with confidence.

Recently, the Center has started developing autonomous robots and remotely operated machines to address a wide variety of security challenges. One of the initiatives launched by this Center is to provide a comprehensive security solution to educational institutions. The Center is also running projects to automate agriculture, which is the backbone of the country. Visits by members of the Center to collaborating European research institutes and vice versa are a regular feature of the Center's work.

# Societies

We strongly believe that cocurricular activities play a very important role in the over- all development of our students. To promote this culture, we encourage our students to join professional societies such as Institute of Electrical and Electronics Engineers (IEEE), Association for Computing Machinery (ACM) and Microsoft Student Partner (MSP). These platforms not only connect our students with computing professionals around the world but also serve to showcase their potential. FoIT has organized various seminars and workshops in collaboration with IEEE, ACM and MSP, including sessions on Windows 8 Programming, C#, ASP. net, Drupal CMS, wireless sensor networks, internet protocols and future challenges. In addition, gaming and programming competitions is also a regular feature of faculty activities.



# Department of Computer Science



Dr. Adnan N. Qureshi HoD

# HoD's Message

I am distinctly privileged to introduce you to the Department of Computer Science, Faculty of Information Technology at the University of Central Punjab.

The Department of Computer Science, one of the largest in UCP, has made it its mission to nurture computer scientists, researchers and entrepreneurs to enable them to lead the future world of IT and make a significant contribution to problem solving practices. With the support of creative technologies, state-of-the-art infrastructure, computer labs and the research and development centers, our students can become pioneers in the field of robotics, game development, educational technologies, health- care modeling, informatics and other fields of computer science.

Our pride – the members of our Faculty, bring together a blend of novel pedagogical approaches, wide range of expertise, industrial experience and research potential to address technological challenges of 21st century at strategic, tactical and operational levels. Their multifaceted roles endeavor to uphold the sanctity and nobility of the scholarly pursuits that cultivate ethos of curiosity, pragmatism and spirit of teamwork. Our vision is to foster versatility amongst graduates, provide opportunities tailored to their particular strengths and give them the distinct competitive edge with knowledge and skills to make a professional difference both at national and international avenues.



**Faculty Members** 

#### Dr. Ahmad Shabbar Kazmi

PhD Computer Engineering (Boston University, Massachusetts, USA) MS Computer Engineering (Boston University, Massachusetts, USA) BS Electrical Engineering (University of Engineering & Technology, Lahore) Professor / Dean-Faculty of Information Technology



### Dr. Muhammad Amjad Iqbal

PhD Computer Science (FAST-NU, Islamabad) MS Computer Science (FAST-NU, Islamabad) MSc Computer Science (Bahauddin Zakariya University, Multan) Associate Professor / Associate Dean-Faculty of Information Technology



#### Dr. Adnan Nabeel Qureshi

MBIT (Igra University, Karachi) MCS (University of South Asia, Lahore) MBBS (King Edward College, Lahore)

PhD Computer Science (University of Bedfordshire, Luton, UK)



Dr. Shahid Saeed Siddigi PhD Computational Mathematics (Brunel University, London, UK) MSc Mathematics (University of the Punjab, Lahore)



Mr. Suhyel Umar M.Phil Iqbaliyat (Allama Iqbal Open University, Pakistan) MA English (Government College University, Lahore) Professor

Professor/HOD-Mathematics Department



Dr. Syed Karrar Haider PhD Physics (University of the Punjab, Lahore) MSc Physics (University of the Punjab, Lahore) Associate Professor/HOD-Humanities & Social Sciences



Dr. Abdul Rauf Nizami PhD Mathematics (Government College University, Lahore) MSc Mathematics (University of the Punjab, Lahore) Associate Professor



Mr. Shafiq Ur Rahman MS Computer Science (George Washington University, Washington DC, USA) BS Electrical Engineering (University of Engineering & Technology, Lahore) Associate Professor



Mr. Liaquat Majeed Sheikh MSc Computer Science (Quaid-e-Azam University, Islamabad) MSc Mathematics (University of the Punjab, Lahore) Associate Professor



Dr. Oumair Naseer PhD Computer Engineering (University Of Warwick, UK) MSc Computer Engineering (LUMS, Lahore) BS Computer Engineering (FAST-NU, Lahore) Assistant Professor



Dr. Syed Atif Mehdi
PhD Computer Science (University of Kaiserslautern, Germany)
MS Computer Science (FAST-NU, Lahore)
BS Computer Science (FAST-NU, Lahore)
Assistant Professor



**Dr. Shahzad Majeed Tiwana**PhD Computer Science (University Of Southern California, Los Angeles, USA)

MS in Computer Science (University Of Southern California, Los Angeles, USA)

BS Electronics & Software Engineering (National University of Science & Technology, Islamabad)



Dr. Aamir Shahzad

MS Mathematics (Moscow Institute of Physics & Technology, Moscow, Russia)

PhD Electronics Engineering (Beihang University, China)

MS Computer Engineering (Lahore University of Management Sciences, Lahore)

MS Computer Engineering (Lahore University of Management Sciences, Lahore) BEng Electrical Engineering (National University of Science & Technology, Islamabad) Assistant Professor



#### Dr. Muhammad Umair

Assistant Professor

PhD Electrical Engineering (ISRA University, Islamabad)
MS Electrical Engineering (International Islamic University, Islamabad)
BS Computer Science (International Islamic University, Islamabad)
Assistant Professor



#### Dr. Sumaira Sharif

PhD Mathematics (FAST-NU, Lahore)
MS Mathematics (FAST-NU, Lahore)
MSc Mathematics (Government College University, Lahore)
Assistant Professor



#### Dr. Maria Naseem

PhD Mathematics (Government College University, Lahore) M.Phil Mathematics (Government College University, Lahore) BS Mathematics (Government College University, Lahore) Assistant Professor



#### Dr. Farhan Dawood

PhD Artificial Intelligence & Robotics (University of Malaya, Kuala Lumpur, Malaysia) MS Electronic Engineering (International Islamic University, Islamabad) BS Electronic Engineering (International Islamic University, Islamabad) Assistant Professor



Dr. Zain Ul Abadin Zafar

PhD Mathematics (University of Engineering & Technology, Lahore) M.Phil Mathematics (University of Engineering & Technology, Lahore) MSc Mathematics (University of the Punjab, Lahore) Assistant Professor



Ms. Maria Zafar

MS Electrical Engineering (FAST-NU, Lahore) MSc Computer Science (Queen Mary University of London, UK) MS Computer Science (Lahore University of Management Sciences, Lahore) Assistant Professor



Mr. Imran Arshad Chaudhry

MS Computer Science (University of Central Punjab, Lahore) BS Computer Science (University of Central Punjab, Lahore) Assistant Professor



### Mr. Muhammad Mustafa Hassan

MSc Computer Science (Abo Akademi University, Finland) MSc Computer Science (Government College University, Lahore) PGD Computer Technology & Communication (Government College University, Lahore) Assistant Professor



Mr. Zaid Munir

MS Telecommunication Engineering (National University of Computer and Emerging Sciences) BS Telecommunication Engineering (National University of Computer and Emerging Sciences) Assistant Professor



Mr. Mohsin Abbas

MS Communications Technology (University of Ulm, Germany) BS Telecommunication Engineering (National University of Computer and Emerging Sciences) Assistant Professor



Mr. Faisal Masud Shaikh

MS Electrical (Telecommunication) Engineering (National University of Science & Technology, Islamabad)

BS Telecommunication Engineering (University of Engineering & Technology, Lahore) Assistant Professor



### Dr. Adnan Ghafoor

PhD Computer Engineering (International Islamic University, Islamabad) MS Electronic Engineering (International Islamic University, Islamabad) BS Computer Engineering (University of Arid Agriculture, Rawalpindi) Assistant Professor



### Mr. Sajid Hussain

MSc Electrical Engineering (System on Chip) (Linköping University, Sweden) BS Computer Engineering (Bahria University, Islamabad) Assistant Professor



#### Mr. Kamran Shabbir

MS Computer Science (Lahore University of Management Sciences, Lahore) BS Computer Science (Virtual University, Lahore) Assistant Professor



### Mr. Saeed Iqbal Khattak

MS Computer Science (National University of Computer and Emerging Sciences) BS Information Technology (University of the Punjab, Lahore) Assistant Professor



### Mr. Muhammad Usman Afzal

MS Computer Science (National University of Computer and Emerging Sciences) BS Computer Science (National University of Computer and Emerging Sciences) Assistant Professor



#### Mr. Awais M. Lodhi

MS Computer Science (National University of Computer and Emerging Sciences) BS Computer Science (National University of Computer and Emerging Sciences) Assistant Professor



### Mr. Asad Umar Khan

MSc Physics with Electronics (University of Agriculture, Faisalabad) BSc Mathematics & Physics (Government College University, Lahore) Assistant Professor



### Ms. Fareeha Iqbal

MS Computer Science (Capital University of Science & Technology, Islamabad) MSc Computer Science (Quaid-e-Azam University, Islamabad) Principal Lecturer



Mr. Syed Nisar Ali M.Phil Electronics (Quaid-e-Azam University, Islamabad) MSc Electronics (Quaid-e-Azam University, Islamabad) Senior Lecturer



Mr. Asim Raza MS Computer Science (University of Central Punjab, Lahore) BS Computer Science (Allama Iqbal Open University, Pakistan) Senior Lecturer



Mr. Ather Suleman MS Telecommunication & Computer Networks (National University of Science & Technology, BS Computer Engineering (COMSATS Institute of Information Technology, Abbottabad) Senior Lecturer



Mr. Muhammad Irfan Anjum M.Phil Digital Signal Processing (Quaid-e-Azam University, Islamabad) MSc Electronics (Quaid-e-Azam University, Islamabad) Senior Lecturer



Mr. M. Umsan M.Phil Islamic Studies (University of the Punjab, Lahore) MA Philosophy (University of the Punjab, Lahore) MA Islamic Studies (Jamia Asharfia, Lahore) Lecturer



Ms. Saba Javed M.Phil Psychology (Government College University, Lahore) BA (Hons.) Psychology (Forman Christian College University, Lahore) Lecturer



Ms. Saba Naeem M.Phil Applied Mathematics (University of the Punjab, Lahore) BA (Hons.) Mathematics (University of the Punjab, Lahore) Lecturer



Ms. Ayesha Zaheer MS Computer Science (Lahore University of Management Sciences, Lahore) BS Computer Science (National University of Computer and Emerging Sciences) Lecturer



Mr. Ahmed Abd-e-Muneeb Niazi

MS Electrical Engineering (National University of Computer and Emerging Sciences) BS Electrical Engineering National University of Computer and Emerging Sciences) Lecturer



Mr. Love Kumar

MS Electrical Engineering (COMSATS Institute of Information Technology, Lahore) BS Electrical (Telecommunication Engineering) (COMSATS Institute of Information Technology, Lahore) Lecturer



Mr. Suneel Kumar

MS Electrical Engineering (COMSATS Institute of Information Technology, Lahore) BS Electrical (COMSATS Institute of Information Technology, Lahore) Lecturer



Ms. Shaista Siddique

MS Computer Science (National University of Computer and Emerging Sciences) BS Computer Sciences (University of the Punjab, Lahore) Lecturer



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Ms. Javaria Arshad

MS Computer Science (National University of Computer and Emerging Sciences) BS Computer Science (National University of Computer and Emerging Sciences) Lecturer



Mr. Saad Ilyas

MS Data Science (University Of Malaya, Malaysia) BS Computer Science (COMSATS Institute of Information Technology, Islamabad) Lecturer



Mr. Syed Irtaza Muzaffar Shah

MS Computer Sciences (University of the Punjab, Lahore) BS Computer Sciences (University of Gujrat, Gujrat) Lecturer



### Mr. Amanullah Jiffrey

MS Computer Science, University of Central Punjab, Lahore BSc (Hons.) Computer Science (Lahore University of Management Sciences, Lahore) Lecturer



#### Mr. Muhammad Ali

MS Electrical Engineering (Lahore University of Management Sciences, Lahore) BSc Electrical Engineering (National University of Computer and Emerging Sciences) Lecturer



### Mr. Usman Younas

MS Computer Engineering (Lahore University of Management Sciences, Lahore) BS Computer Engineering (National University of Computer and Emerging Sciences) Lecturer



#### Mr. Hamad Ul Qudous

MS Computer Science (National University of Computer and Emerging Sciences) BS Computer Science (National University of Computer and Emerging Sciences) Lecturer



Mr. M. Waqar Mughal

MS Computer Science (University of Central Punjab, Lahore) BS Computer Science (University of Central Punjab, Lahore) Lecturer



Mr. Muhammad Azeem

MS Computer Science (COMSAT University, Islamabad) BS Computer Science (University of Sargodha, Sargodha) Lecturer



#### Ms. Sahar Zia

MS Computer Science (COMSATS University, Islamabad) BS Computer Science (COMSATS University, islamabad) Lecturer



#### Ms. Maryam Badar

MS Computer Science (National University of Sciences & Technology, Islamabad) BS Electrical Engineering (University of Engineering & Technology, Lahore) Associate Lecturer

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# Department Software Engineering



Dr Nauman Mazhar HoD

# HoD's Message

Software Engineering is a fascinating field, dealing with software systems and applications that have a profound influence in all spheres of our daily lives. Consequently, the software development market has grown rapidly worldwide and now amounts to billions of dollars of annual transactions. Software Engineering is a discipline that deals with designing and implementing large, reliable, efficient and economical software. It produces specialized individuals equipped with the latest software development techniques, who are able to meet the challenging requirements of developing today's system and application level software. Our Bachelor of Science in Software Engineering pro- gram aims to train our students in various aspects of the software development life cycle. The program has specifically been designed to not only impart theoretical concepts but also expose students to the current industry standards, practices and tools for designing, implementing, developing, testing, deploying and maintaining software systems. Our Software Engineering graduates will learn the most demanding skills to excel in this profession, and proactively play their role in producing relevant knowledge and meeting the software development needs of the industry. The scope of today's software systems extends to numerous sectors including education, health, communications, manufacturing, banking and finance, transportation, infotainment, military, agriculture, and smart communities.

Software Engineering Department has an outstanding faculty, specializing in various fields related to software engineering and computer science. They have teaching and research interests in diversified areas of software engineering, artificial intelligence, robotics, image processing, computer vision, natural language processing, software quality and testing, information retrieval, computer networks & security, and the data science. The course contents are regularly updated to reflect current trends in technology and the need of upcoming research. Our faculty members are also involved in national and international level projects, along with collaborative research with foreign universities and holding joint conferences and workshops.

The BSSE program has been developed to be coherent with the requirements of accreditation bodies (HEC, NCEAC), while meeting the industry standards. It has always been our endeavor to provide a conducive, stimulating and challenging environment to students to nurture and nourish their passion for learning, and enhance their ability to assimilate and discover knowledge. At the same time, it is our aim to groom them as passionate humans with keen sense of social and ethical responsibility to work for the betterment of the society in general. I welcome you all to the Software Engineering Department.



**Faculty Members** 

### Dr. Nauman Mazhar

PhD Computer Engineering (University of Engineering and Technology, Taxila) MS Computer Engineering (IOWA State University, USA) BE Avionics Engineering (NED University, Karachi) Associate Professor



Dr. Shahzad Malik Awan PhD Computer Science (UK) MS Software Engineering (Ireland) MS Computer Sciences (Lahore University of Management Sciences, Lahore) BSc Computer Science (University Of Lahore, Lahore)



Associate Professor

# Dr. Anam Mustageem

PhD Software Engineering (University of Engineering & Technology, Taxila) MS Software Engineering (University of Engineering & Technology, Taxila) BS Software Engineering (University of Engineering & Technology, Taxila) Assistant Professor



### Mr. Haroon Abdul Waheed

MSc Advanced Methods in Computer Science (Queen Mary, University of London, UK) MS Computer Science (Lahore University of Management Sciences, Lahore) BS Computer Science (University of Central Punjab, Lahore) Assistant Professor



### Ms. Sadaf Baloch

MS Computer Science (Institute of Business Administration, Karachi) BS Software Engineering (Bahria University, Islamabad) Assistant Professor



#### Ms. Farah Naaz Raza

MS Software Engineering (Sir Syed University of Engineering & Technology, Karachi) BEng Computer Systems (NED University, Karachi) Assistant Professor



Mr. M. Rehan Abbas

MS Computer Engineering (University of Engineering & Technology, Lahore) BS Computer Engineering (University of Engineering & Technology, Lahore) Principal Lecturer



#### Mr. Waseem Aslam

MS Computer & Communication Security (National University of Science and Technology, Islamabad) MSc Electronics (Quaid-e-Azam University, Islamabad) Senior Lecturer



#### Mr. Nabeel Ahsan

MS Communication & Signal Processing (Ilmenau University of Technology, Germany) BS Telecommunication (COMSAT Institute of Information Technology, Lahore) Lecturer



Ms. Madiha Yousaf Malik

MS Software Engineering (National University of Science & Technology, Islamabad) BS Software Engineering (University of Sargodha, Sargodha) Lecturer



Ms. Rubab Javaid

MS Software Engineering (FAST-NU, Lahore) BS Software Engineering (University of Sargodha, Sargodha) Lecturer



Mr. Mohsin Sami

M.Phil Computer Science (University of Central Punjab, Lahore) BS Computer Science (University of Central Punjab, Lahore) Lecturer



Ms. ifrah Qaiser

MS Software Engineering (National University of Computer and Emerging Sciences) BS Computer Science (National University of Computer and Emerging Sciences) Lecturer



Mr. Muhammad Bilal Khan

MS Informatics (Umea University, Sweden) BS Computer Engineering (Bahria University, Islambad) Lecturer



Mr. Usman Akber

MS Software Engineering (COMSATS University, Islamabad) BS Computer Science (University of Sargodha, Sargodha) Lecturer



Ms. Syeda Farwa Batool

MS Computer Science (National University of Computer and Emerging Sciences) BS Software Engineering (Punjab University College of Information Technology, Lahore) Lecturer



Ms. Maida Khan

M.Phil Computer Science (University of Punjab, Lahore) BS Software Engineering (University of the Punjab, Lahore) Associate Lecturer

# Department of Computer Science

# **BS** Computer Science

### **Admission Requirements**

- (i) At least 50% marks in F.Sc (Pre-Medical/Pre-Engineering/ ICS/A-Levels or equivalent qualification with Mathematics certified by IBCC.
- (ii) Applicant will clear UCP test or equivalent.

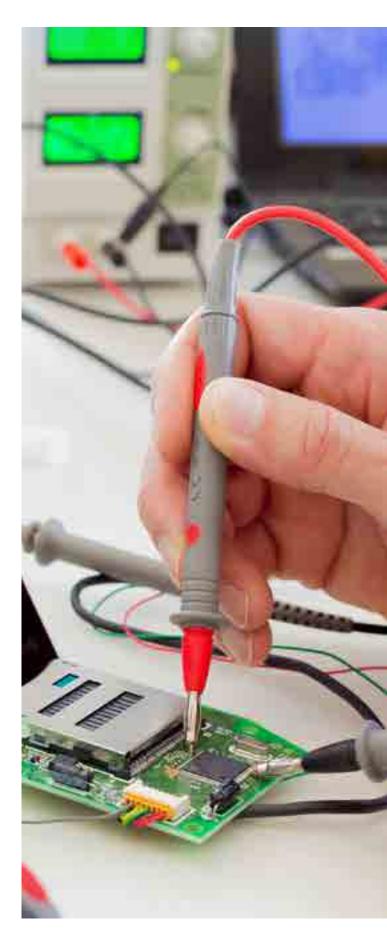
### Degree Requirements

Each candidate for the BS Computer Science degree is required to successfully earn 133 Cr. Hrs. with the minimum CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area		Cr. Hrs.
a)	Core Courses		61
b)	Math Science Foundation Courses		12
c)	Humanities Courses		18
d)	Supporting Courses		09
e)	CS Elective Courses		15
f)	UCP Elective Courses		12
g)	Design Project		06
		Total	133

### a) Core Courses (61 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Computing	CSCS1513	3
Introduction to Computing Lab	CSCS1511	1
Programming Fundamentals	CSCP1013	3
Programming Fundamentals Lab	CSCP1011	1
Object Oriented Programming	CSCP2023	3
Object Oriented Programming Lab	CSCP2021	1
Data Structures and Algorithms	CSCP2033	3
Data Structures and Algorithms Lab	CSCP2031	1
Discrete Structures	CSAL1213	3
Introduction to Database Systems	CSDB2313	3
Introduction to Database Systems Lab	CSDB2311	1
Operating Systems	CSCS3553	3
Operating Systems Lab	CSCS3551	1



Course Title	Code	Cr. Hrs.
Software Engineering	CSSE3113	3
Computer Communications and Networks	CSNC2413	3
Computer Communications and Networks Lab	CSNC2411	1
Information Security	CSNC3413	3
Digital Logic and Design	CSCS2523	3
Digital Logic and Design Lab	CSCS2521	1
Computer Organization & Assembly Language	CSCS3543	3
Computer Organization & Assembly Lab Language	CSCS3541	1
Compiler Construction	CSCS4573	3
Design and Analysis of Algorithm	CSAL3233	3
Theory of Automata	CSAL3253	3
Parallel and Distributed Computing	CSCS2543	3
Artificial Intelligence	CSAL3243	3
Artificial Intelligence Lab	CSAL3241	1

# b) Math Science Foundation Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Calculus and Analytical Geometry	CSSS1713	3
Basic Electronics	CSSS1723	3
Probability and Statistics	CSSS2743	3
Linear Algebra	CSSS2753	3

# c) Humanities Courses (18 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
English Composition & Comprehension	CSHU1823	3
Pakistan Studies	CSHU1893	3
Islamic and Religious Studies	CSHU1863	3
Communication & Presentation Skills	CSHU1873	3
Technical and Business Writing	CSHU2813	3
Professional Practices	CSMG4963	3

# d) Supporting Courses (09 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Supporting I	CSXXxxx3	3
Supporting II	CSXXxxx3	3
Supporting III	CSXXxxx3	3



### Any 03 of the following courses.

Course Title	Code	Cr. Hrs.
Differential Equations	CSSS2763	3
Multivariate Calculus	CSSS2733	3
Numerical Computing	CSAL4263	3
Introduction to Graph Theory	CSAL4293	3
Theory of Programming Languages	CSAL4343	3

### e) Computer Science Elective Courses (15 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
CS Elective I	CSXXxxx3	3
CS Elective II	CSXXxxx3	3
CS Elective III	CSXXxxx3	3
CS Elective IV	CSXXxxx3	3
CS Elective V	CSXXxxx3	3

### List of Computer Science Electives

Following is a non-exhaustive list of elective courses. New elective courses may be added to this list. Students may be recommended to make their choice of electives, in the light of a soft specialization within the field of Computer science.

Course Title	Code	Cr. Hrs.
Computational Geometry for Designing and Animation	CSAC3613	3
Advanced Machine Learning	CSAL4333	3
Advanced Mobile Development	CSCP3073	3
Advanced Database Systems	CSDS4413	3
Topics in Computer Science	CSAL3273	3
Computer Graphics	CSAL4273	3
Artificial Neural Networks	CSAL4283	3
Introduction to Speech Synthesis	CSAL4313	3
Mobile Application Development	CSCP3063	3
Introduction to Data Mining	CSDB3353	3
Fuzzy Data Mining	CSAL3263	3
3D Computer Graphics	CSAL4323	3
Applied Design Patterns	CSCP4063	3
Web Information Retrieval	CSDB4353	3





Course Title	Code	Cr. Hrs.
Introduction to Computational Linguistics	CSAL4233	3
Microprocessor and Interfacing	CSST3623	3
Database Administration	CSDB4333	3
Microprocessor Design	CSST3643	3
Microcontroller Programming and Interfacing	CSST3663	3
Introduction to Image Processing	CSAL3203	3
Decision Support Technologies	CSAL4213	3
Systems Analysis and Design	CSAL4223	3
Introduction to Natural Language Processing	CSAL4253	3
Object Oriented Analysis and Design	CSCP3023	3
Visual Programming	CSCP3043	3
Rapid Application Development	CSCP3053	3
System Programming	CSCP4073	3
Multimedia Arts	CSCP4083	3
Introduction to Computer Vision	CSDB3263	3
Data Analysis Techniques	CSDB3363	3
Introduction to Data Science	CSDB4313	3
Distributed Database Systems	CSDB4323	3
Database Administration	CSDB4333	3
Geographical Information System	CSDB4343	3
Programming for Big Data	CSDS4423	3
Data Warehousing	CSDS4433	3
Big Data Analytics	CSDS4473	3
Digital Signal Processing	CSIP3113	3
Data Network Security	CSNC3423	3
Data Communication	CSNC3433	3
Blockchain Essentials	CSNC3443	3
Introduction to Cloud Computing	CSNC3453	3
Formal Specification of Software	CSSE3123	3
Software Engineering II	CSSE3133	3
User Interface Design and Sketching	CSSE3153	3
Advanced Web Programming	CSSE3163	3
Software Quality Assurance	CSSE4123	3

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Course Title	Code	Cr. Hrs.
Introduction to Agile and Scrum	CSSE4133	3
Application Development	CSSE4143	3
Web Engineering	CSSE4163	3
Software Testing	CSSE4193	3
Game Modeling	CSST3613	3
Introduction to Game Design	CSST3653	3
Visual Animation	CSST3673	3
FPGA Based System Design	CSST4613	3
Programming Game Engines	CSST4623	3
Technical Game Design	CSST4633	3
Game Algorithms	CSST4643	3
Interactive Multimedia	CSST4653	3
Advanced Game Development	CSST4663	3
Enterprise Resource Planning	CSST4673	3
Embedded System/Microcontroller Programming	CSST4683	3
Introduction to Robotics	CSST4693	3

# f) UCP Elective Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
University Elective I	CSXXxxx3	3
University Elective II	CSXXxxx3	3
University Elective III	CSXXxxx3	3
University Elective IV	CSXXxxx3	3

# List of University Electives

Course Title	Code	Cr. Hrs.
Introduction to Psychology	CSHU1843	3
History of Pakistan	CSHU1853	3
Calligraphy	CSHU2823	3
Logic Thinking	CSHU2833	3
Geometry and Design	CSHU2843	3
Introduction to Sociology	CSHU2863	3
Modern Politics and Government	CSHU2883	3

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Course Title	Code	Cr. Hrs.
Introduction to Chinese Language	CSHU3833	3
Introduction to Music	CSHU3843	3
Persian Language	CSHU3853	3
Foreign Language	CSHU3863	3
Speak Well - English Conversation	CSHU3873	3
Business Intelligence	CSHU4873	3
Business Mathematics	CSIM1113	3
Management Information System	CSIM3113	3
Principles of Marketing	CSIM3123	3
International Relations	CSMG1913	3
Financial Accounting	CSMG1923	3
Introduction to Business	CSMG1933	3
Business Ethics	CSMG1943	3
Technology Entrepreneurship	CSMG2913	3
Creative Graphics	CSMG2923	3
Introduction to Game Production	CSMG2933	3
The Aesthetic Approach	CSMG2943	3
Human Resource Management	CSMG3933	3
Organizational Behavior and Culture	CSMG3943	3
Fundamentals of Marketing	CSMG3953	3
Management Skills	CSMG3963	3
Urdu Literature	CSMG3973	3
Cultural Anthropology	CSMG3983	3
Iqbaliat	CSMG4923	3
Quranic Arabic	CSMG4933	3
Research Methodology	CSMG4973	3
Entrepreneurship	CSMG4983	3
Introduction to Management	CSMG4993	3

#### g) Design Project (06 Cr. Hrs.)

After the completion of 90 Cr. Hrs. the students are required to demonstrate their practical skills in the field of computer science by designing and implementing a design project worth 06 Cr. Hrs. The project shall be completed in two parts as given below:

Со	urse Title	Code	Cr. Hrs.
Fir	nal Year Project I	CSSD4913	3
Fir	nal Year Project II	CSSD4923	3

# 1.3 Community Service (CS4000)

Each student is required to complete 65 hours community work, usually after 4th semester which would be a prerequisite to clear the student for the award of degree.

# 1.4 Program Duration

This is a four-year degree program comprising of 8 semesters with a minimum of 133 Cr. Hrs. There will be a Fall and a Spring semester in each year. The summer semester will be utilized for internship or deficiency courses. The minimum and maximum duration to complete BS Computer Science degree is 04 and 07 years, respectively.



# Scheme of Studies: BS Computer Science Program

#### Semester-I (16 Cr. Hrs.)

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Course Code	Course Title	Category	Cr. Hrs.
CSCS1513	Introduction to Computing	Core	3
CSCS1511	Introduction to Computing Lab	Core	1
CSHU2833	Logic Thinking (UCP Elective I)	Uni Elective	3
CSHU1823	English Composition & Comprehension	Humanities	3
CSSS1723	Basic Electronics	Math Science	3
CSHU1863	Islamic and Religious Studies	Humanities	3

#### Semester-II (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CSCP1013	Programming Fundamentals	Core	3
CSCP1011	Programming Fundamentals Lab	Core	1
CSCS2523	Digital Logic Design	Core	3
CSCS2521	Digital Logic Design Lab	Core	1
CSSS1713	Calculus and Analytical Geometry	Math Science	3
CSHU1873	Communication & Presentation Skills	Humanities	3
CSHU1893	Pakistan Studies	Humanities	3



# Scheme of Studies: BS Computer Science Program

# Semester-III (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CSCP2023	Object Oriented Programming	Core	3
CSCP2021	Object Oriented Programming Lab	Core	1
CSCS3543	Computer Org. & Assembly Lang.	Core	3
CSCS3541	Computer Org. & Assembly Lang. Lab	Core	1
CSXXxxx3	Supporting I	Supporting	3
CSAL1213	Discrete Structures	Core	3
CSXXxxx3	UCP Elective II	Uni Elective	3

# Semester-IV (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CSSS2743	Probability and Statistics	Math Science	3
CSCP2033	Data Structures and Algorithms	Core	3
CSCP2031	Data Structures and Algorithms Lab	Core	1
CSDB2313	Introduction to Database Systems	Core	3
CSDB2311	Introduction to Database Systems Lab	Core	1
CSSS2753	Linear Algebra	General Science	3
CSXXxxx3	CS Elective I	CS Elective	3

# Scheme of Studies: BS Computer Science Program

# Semester-V (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CSSE3113	Software Engineering	Core	3
CSCS3553	Operating Systems	Core	3
CSCS3551	Operating Systems Lab	Core	1
CSXXxxx3	Supporting II	Supporting	3
CSXXxxx3	CS Elective II	CS Elective	3
CSAL3233	Design and Analysis of Algorithms	Core	3

## Semester-VI (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CSAL3253	Theory of Automata	Core	3
CSAL3243	Artificial Intelligence	Core	3
CSAL3241	Artificial Intelligence Lab	Core	1
CSNC2413	Computer Comm. and Networks	Core	3
CSNC2411	Computer Comm. and Networks Lab	Core	1
CSXXxxx3	CS Elective III	CS Elective	3
CSHU2813	Technical and Business Writing	Humanities	3

## Semester-VII (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CSCS4573	Compiler Construction	Core	3
CSNC3413	Information Security	Core	3
CSXXxxx3	Supporting III	Supporting	3
CSXXxxx3	UCP Elective III	Uni Elective	3
CSXXxxx3	CS Elective IV	CS Elective	3
CSSD4913	Final Year Project I	Core	3

# Semester-VIII (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CSCS2543	Parallel and Distributed Computing	Core	3
CSMG4963	Professional Practices	Humanities	3
CSXXxxx3	CS Elective V	CS Elective	3
CSXXxxx3	UCP Elective IV	Uni Elective	3
CSSD4923	Final Year Project II	Core	3



# **BS Data Science**

# **Admission Requirements**

- (i) At least 50% marks in F.Sc (Pre-Medical/Pre-Engineering/ICS/A-Levels or equivalent qualification with Mathematics certified by IBCC.
- (ii) Applicant will clear UCP test or equivalent.

# Degree Requirements

Each candidate for the BS Data Science degree is required to successfully earn 133 Cr. Hrs. with the CGPA of 2.0 on a scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Core Courses	61
b)	Math Science Foundation Courses	12
c)	Humanities Courses	18
d)	Supporting Courses	09
e)	DS Elective Courses	15
f)	UCP Elective Courses	12
g)	Design Project	06
	Total	133

# a) Core Courses (61 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Computing	DSCP1013	3
Introduction to Computing Lab	DSCP1011	1
Programming Fundamentals	DSCP1023	3
Programming Fundamentals Lab	DSCP1021	1
Object Oriented Programming	DSCP2033	3
Object Oriented Programming Lab	DSCP2031	1
Data Structures & Algorithms	DSCP2043	3
Data Structures & Algorithms Lab	DSCP2041	3
Discrete Structures	DSAL2513	1
Operating Systems	DSNS3413	3
Operating Systems Lab	DSNS3411	1
Database Systems	DSDB2313	3



Course Title	Code	Cr. Hrs.
Database Systems Lab	DSDB2311	1
Software Engineering	DSSD3213	3
Computer Networks	DSNS3423	3
Computer Networks Lab	DSNS3421	1
Information Security	DSNS4433	3
Fundamentals of Data Science	DSDS1113	3
Big Data Programming	DSDS2123	3
Big Data Programming Lab	DSDS2121	1
Data Mining	DSDB3333	3
Data Mining Lab	DSDB3331	1
Artificial Intelligence	DSAL3533	3
Natural Language Processing	DSAL4593	3
Natural Language Processing Lab	DSAL4591	1
Schema-less Databases	DSDB3323	3
Design & Analysis of Algorithms	DSAL3523	3

# b) Math Science Foundation Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Calculus and Analytical Geometry	DSSS1813	3
Linear Algebra	DSSS2873	3
Probability and Statistics	DSSS2863	3
Basic Electronics	DSSS1823	3

# c) Humanities Courses (18 Cr. Hrs.)

English Composition & Comprehension	DSHU1633	3
Pakistan Studies	DSHU1613	3
Islamic Studies	DSHU1623	3
Communication & Presentation Skills	DSHU1663	3
Technical and Business Writing	DSHU2673	3
Professional Practices	DSGE4753	3



# d) Supporting Courses (09 Cr. Hrs.)

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Course Title	Code	Cr. Hrs.
Supporting I	DSXXxxx3	3
Supporting II	DSXXxxx3	3
Supporting III	DSXXxxx3	3
For support courses choose any 03 †	from the follow	ing list
Differential Equations	DSSS2833	3
Introduction to Stochastic	DSSS2843	3
Processes	23332073	
Introduction to Machine Learning	DSAL4583	3
Optimization Techniques	DSDS2133	3
Applied Statistics	DSSS2853	3
Tools and Techniques for Data Science	DSDS2143	3

# e) Data Science Elective Courses (15 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
DS Elective I	DSXXxxx3	3
DS Elective II	DSXXxxx3	3
DS Elective III	DSXXxxx3	3
DS Elective IV	DSXXxxx3	3
DS Elective V	DSXXxxx3	3

# List of Data Science Electives

Following is a non-exhaustive list of elective courses. New elective courses may be added to this list. Students may be recommended to make their choice of electives, in the light of a soft specialization within the field of data science.

Course Title	Code	Cr. Hrs.
Image Processing	DSAL3543	3
Computer Vision	DSAL3553	3

Course Title	Code	Cr. Hrs.
Introduction to Biomedical Image Processing	DSAL3563	3
Deep Learning	DSDS3153	3
Generative Adversarial Networks	DSNS3443	3
Deep Reinforcement Learning	DSDS3173	3
Unsupervised Deep Learning	DSDS3183	3
Deep Recurrent Neural Networks	DSDS3193	3
Exploratory Data Analysis and Visualization	DSDS3163	3
Information Retrieval	DSDB3343	3
Bio Informatics	DSSS3883	3
Semantic Web	DSNS3463	3
Business Analytics	DSSS3893	3
Deep Natural Language Processing	DSAL3573	3
Block Chain	DSNS3473	3
Data Modeling & Forecasting	DSSS4813	3
Distributed Computing	DSNS3483	3
Distributed Databases	DSNS4493	3

# f) UCP Elective Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
University Elective I	DSXXxxx3	3
University Elective II	DSXXxxx3	3
University Elective III	DSXXxxx3	3
University Elective IV	DSXXxxx3	3

## g) Design Project (06 Cr. Hrs.)

After the completion of 90 Cr. Hrs. the students are required to demonstrate their practical skills in the field of data science by designing and implementing a design project worth 06 Cr. Hrs. The project shall be completed in two parts as given below:

Course Title	Code	Cr. Hrs.
Final Year Project I	DSSD4913	3
Final Year Project II	DSSD4923	3

## Community Service (DS4000)

Each student is required to complete 65 hours community work, usually after 4th semester which would be a prerequisite to clear the student for the award of degree.

## **Program Duration**

This is a four-year degree program comprising of 8 semesters with a minimum of 133 Cr. Hrs. There will be a Fall and a Spring semester in each year. The summer semester will be utilized for internship or deficiency courses. The minimum and maximum duration to complete BS Data Science degree is 04 and 07 years, respectively.



# Scheme of Studies: BS Data Science Program

## Semester-I (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
DSCP1013	Introduction to Computing	Core	3
DSCP1011	Introduction to Computing Lab	Core	1
DSHU1643	Logic Thinking (UCP Elective I)	Uni Elective	3
DSHU1633	English Composition & Comprehension	Humanities	3
DSSS1823	Basic Electronics	Math Science	3
DSHU1613	Pakistan Studies	Humanities	3

## Semester-II (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
DSCP1023	Programming Fundamentals	Core	3
DSCP1021	Programming Fundamentals Lab	Core	1
DSDS1113	Fundamentals of Data Science	Core	3
DSSS1813	Calculus and Analytical Geometry	Math Science	3
DSHU1663	Communication & Presentation Skills	Humanities	3
DSHU1623	Islamic Studies	Humanities	3

## Semester-III (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
DSCP2033	Object Oriented Programming	Core	3
DSCP2031	Object Oriented Programming Lab	Core	1
DSDS2123	Big Data Programming	Core	3
DSDS2121	Big Data Programming Lab	Core	1
DSXXxxx3	Supporting I	Supporting	3
DSAL2513	Discrete Structures	Core	3
DSXXxxx3	UCP Elective II	Uni Elective	3

# Semester-IV (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
DSSS2863	Probability and Statistics	Math Science	3
DSCP2043	Data Structures and Algorithms	Core	3
DSCP2041	Data Structures and Algorithms Lab	Core	1
DSDB2313	Introduction to Database Systems	Core	3
DSDB2311	Introduction to Database Systems Lab	Core	1
DSSS2873	Linear Algebra	Math Science	3
DSHU2673	Technical and Business Writing	Humanities	3

# Scheme of Studies: BS Data Science Program

# Semester-V (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
DSDB3323	Schema-less Databases	Core	3
DSNS3413	Operating Systems	Core	3
DSNS3411	Operating Systems Lab	Core	1
DSXXxxx3	Supporting II	Supporting	3
DSXXxxx3	DS Elective I	DS Elective	3
DSAL3533	Design and Analysis of Algorithms	Core	3

# Semester-VI (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
DSDB3333	Data Mining	Core	3
DSDB3331	Data Mining Lab	Core	1
DSAL3533	Artificial Intelligence	Core	3
DSNS3423	Computer Comm. and Networks	Core	3
DSNS3421	Computer Comm. and Networks Lab	Core	1
DSXXxxx3	DS Elective II	DS Elective	3
DSSD3213	Software Engineering	Core	3



# Scheme of Studies: BS Data Science Program

# Semester-VII (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
DSGE4753	Professional Practices	Humanities	3
DSXXxxx3	Supporting I	Supporting	3
DSXXxxx3	UCP Elective III	Uni Elective	3
DSXXxxx3	DS Elective III	DS Elective	3
DSXXxxx3	DS Elective IV	DS Elective	3
DSSD4913	Final Year Project I	Core	3

# Semester-VIII (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
DSAL4593	Natural Language Processing	Core	3
DSAL4591	Natural Language Processing Lab	Core	1
DSNS4433	Information Security	Core	3
DSXXxxx3	DS Elective V	DS Elective	3
DSXXxxx3	UCP Elective IV	Uni Elective	3
DSSD4923	Final Year Project II	Core	3



# MS Computer Science

## Admission Requirements

- (i) A minimum of 16 years of education leading to BS in Computer Science/Information Technology/Software Engineering or equivalent
- (ii) Pre-requisite courses will be determined as per HEC policy (if any)
- (iii) Minimum 2.00/4.00 CGPA or 50% marks
- (iv) Admission Test/HEC Approved Test

## Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- (i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate for the MS Computer Science degree is required to successfully earn 30 Cr. Hrs. with the CGPA 2.5 on a scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Core Courses	12
<i>b)</i>	Electives	12
<i>c)</i>	Thesis/Additional Courses	06
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#### a) Core Courses

Course Title	Code	Cr. Hrs.
Advanced Algorithms Analysis	CSAC5613	3
Advanced Theory of Computation	CSSC5333	3
Advanced Computer Architecture	CSNS5523	3
Advanced Operating Systems	CSNS5513	3
Theory of Programming Languages	CSSC5343	3

## b) Electives (12 Cr. Hrs.)

Following is a non-exhaustive list of elective courses. New elective courses may be added to this list. Students may be recommended to make their choice of electives, in the light of a soft specialization within the field of Computer science.



Course Title	Code	Cr. Hrs.
Topics in Artificial Intelligence	CSAC5643	3
Topics in Computer Vision	CSIP6163	3
Topics in Information Retrieval	CSDS7433	3
Topics in Networks & Communication	CSNS6553	3
Topics in Embedded Systems	CSNS6543	3
Advanced Software Engineering	CSSE5013	3
Software Quality Assurance	CSSE5123	3
Requirements Engineering	CSSE5033	3
Formal Methods	CSSE5043	3
Formal Specification and Design Techniques	CSSE5053	3
Digital Image Processing	CSIP5123	3
Digital Signal Processing	CSIP5113	3
Computational Intelligence	CSC17233	3
Fuzzy Intelligence	CSCI5213	3
Machine Learning	CSC15223	3
Parallel Computing	CSSC5313	3
Distributed Systems	CSSC5323	3
Theory of Programming Languages	CSSC5343	3
Advanced Database Systems	CSDS5413	3
Data Mining	CSDS5423	3
Data Warehousing	CSDS6443	3
Information Retrieval Techniques	CSDS5443	3
Mobile Communication Systems	CSNS5533	3
Network Security	CSNC5423	3
Multimedia Systems	CSSE5533	3
Algorithmic Graph Theory	CSAC5623	3
Software Project Management	CSSE6063	3
Computer Vision	CSIP6133	3
Robotics	CSIP6143	3
Pattern Recognition	CSCI6243	3
Fuzzy Automata and Languages	CSSC6353	3
Advanced Compiler Techniques	CSSC6363	3

Course Title	Code	Cr. Hrs.	
Advanced Data Mining	CSDS6453	3	
Multimedia Database Systems	CSDS6463	3	
Advanced Computer Networks	CSNS6563	3	
Systems Modeling and Simulation	CSAC6633	3	
Dynamic Modeling and Algorithms	CSAC6643	3	
Operations Research-I	CSSC6373	3	
Natural Language Processing	CSCI6233	3	
Stochastic Processes	CSAC6653	3	
Genetic Algorithms	CSAC6663	3	
Operations Research-II	CSSC7383	3	
Distributed Knowledge Engineering	CSC17253	3	
Advanced Topics in Formal Methods	CSSE5063	3	
Real Time Systems	CSNS7573	3	
Wireless Networks	CSNS7583	3	
Geometric Modelling for Curve Designing	CSAC6673	3	
Biomedical Signal and Image Processing	CSIP6153	3	
Topics in Statistical Natural Language Processing	CSCI6253	3	
Information Retrieval and Web Search Engine	CSDS5483	3	
Design of Interactive Learning Applications	CSSE7023	3	
Mobile Robotics	CSST5693	3	
Research Methodology	CSST5663	3	
c) Research Thesis			
Research Thesis	CSRW6916	6	
Thesis Continuation	CSRW6921	1	
Program Duration			
This is nominally a two-year degree program comprising of 4			

This is nominally a two-year degree program comprising of 4 semesters with a minimum of 30 Cr. Hrs. There will be a Fall and a Spring semester in each year. The summer semester will be utilized for deficiency courses. The maximum duration to complete MS Computer Science degree is 04 years.

# MS Data Science

## **Admission Requirements**

- (i) A minimum of 16 years of education leading to BS in Computer Science/Information Technology/Software Engineering or equivalent
- (ii) Pre-requisite courses will be determined as per HEC policy (if any)
- (iii) Minimum 2.00/4.00 CGPA or 50% marks (iv) Admission Test/HEC Approved Test

## Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- (i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate for the MS Data Science degree is required to successfully earn 30 Cr. Hrs. with the CGPA of 2.5 on the scale of 4.0 as per the following detail:

	Area	Cr. Hrs.	
a)	Core Courses	12	
b)	Specialization	06	
c)	Electives	06	
d)	Thesis/Additional Courses	06	
	Tota	ıl 30	

#### a) Core Courses

Course Title	Code	Cr. Hrs.
Statistical and Mathematical Methods for Data Science	DSSM5103	3
Tools and Techniques in Data Science	DSDS5203	3
Machine Learning	DSAI5303	3
Research Methodology	DSRM5401	3

## b) Specialization Courses

Select any 02 courses out of following:

Course Title	Code	Cr. Hrs.
Big Data Analytics	DSDS5213	3
Deep Learning	DSAI6313	3
Natural Language Processing	DSAI6323	3
Distributed Data Processing	DSDS6233	3

#### c) Electives

Following is a non-exhaustive list of elective courses. New elective courses may be added to this list. Students may be recommended to make their choice of electives, in the light of a soft specialization within the field of data science.



Course Title	Code	Cr. Hrs.
Topics in Artificial Intelligence	DSAI5643	3
Topics in Data Visualization	DSIP6163	3
Topics in Data & Information Retrieval	DSDS7433	3
Topics in Networks & Communication	DSNS6553	3
Topics in Cloud Computing Technologies	DSNS6543	3
Advanced Computer Vision	DSIP5603	3
Algorithmic Trading	DSCS5503	3
Bayesian Data Analysis	DSDS5233	3
Big Data Analytics	DSDS5243	3
Bioinformatics	DSCS5513	3
Cloud Computing	DSCS5523	3
Computational Genomics	DSSM6153	3
Data Visualization	DSDS6253	3
Deep Reinforcement Learning	DSA16333	3
Distributed Data Processing and Machine Learning	DSDS6263	3
Distributed Machine Learning in Apache Spark	DSAI6343	3

Course Title	Code	Cr. Hrs.
High Performance Computing	DSCS5533	3
Inference & Representation	DSDS6273	3
Optimization Methods for Data Science and Machine Learning	DSSM5113	3

# d) Research Thesis

Course Title	Code	e Cr. Hrs.	
Research Thesis	DSRW6	916 6	
Thesis Continuation	DSRW6	921 1	

# **Program Duration**

This is a two-year degree program comprising of 4 semesters with 30 Cr. Hrs. There will be a Fall and a Spring semester in each year. The summer semester will be utilized for deficiency courses. The maximum duration to complete MS Data Science degree is 04 years.







# PhD Computer Science

The Department provides a vibrant and dynamic environment that encourages excellence in research specifically in the areas of Software Systems & Engineering, Multimedia & Communications, Web and Information Systems and Computational Business Intelligence. The PhD program aims at producing graduates who could meet the challenges of emerging international trends in Computer Science. To achieve this objective, we have a team of highly qualified and dedicated faculty members; a cohesive and carefully designed PhD program. A due emphasis has been placed on the applied and industrial aspects of the research. For this purpose, the Department has established a strong liaison with Research & Development organizations and industry.

#### **Admission Requirements**

- (i) MS degree in relevant discipline
- (ii) Minimum CGPA 3.0/4.0 (Semester System) or 60% marks (Annual System)
- (iii) Admission Test/GAT Subject/HEC Test
- (iv) Interview

#### Degree Requirements

A PhD candidate shall be awarded degree on successful completion of the following requirements:

- (i) 18 Cr. Hrs. Course Work with minimum CGPA 3.00/4.00
- (ii) Comprehensive Examination (written and oral)
- (iii) 30 Cr. Hrs. Research Work
- (iv) Synopsis Defense
- (v) Dissertation Foreign Reviews
- (vi) Publication of at least one research paper in HEC approved journal.
- (vii) Dissertation Final Defense

**Note:** PhD scholars are required to comply with the following timeline:

Activity	Preferred Time	Maximum
Course Work	2 Semesters	3 Semesters
Comprehensive Exam	3 Semesters	4 Semesters
Synopsis Qualification	4 Semesters	6 Semesters
Thesis Submission	6 Semesters	14 Semesters (7 Years)

# Department of Software Engineering

# **BS Software Engineering**

# **Admission Requirements**

(i) At least 50% marks in F.Sc (Pre-Medical/Pre-Engineering/ICS/A-Levels or equivalent qualification with Mathematics certified by IBCC. (ii) Applicant will clear UCP test or equivalent.

# Degree Requirements

Each candidate for the BS Software Engineering degree is required to successfully earn 133 Cr. Hrs. with the minimum CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area		Cr. Hrs.
a)	Core Courses		61
<i>b)</i>	Math Science Foundation Courses		12
<i>c)</i>	Humanities Courses		18
d)	Supporting Courses		09
e)	SE Elective Courses		15
f)	University Elective Courses		12
g)	Design Project		06
		Total	133

## a) Core Courses (61 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Computing	SECP1013	3
Introduction to Computing Lab	SECP1011	1

Course Title	Code	Cr. Hrs.
Programming Fundamentals	SECP1023	3
Programming Fundamentals Lab	SECP1021	1
Object Oriented Programming	SECP2033	3
Object Oriented Programming Lab	SECP2031	1
Data Structures and Algorithms	SECP2043	3
Data Structures and Algorithms Lab	SECP2041	1
Discrete Structures	SEAD1413	3
Introduction to Database Systems	SEAD3423	3
Introduction to Database Systems Lab	SEAD3421	1
Operating Systems	SENS3513	3



Course Title	Code	Cr. Hrs.
Operating Systems Lab	SENS3511	1
Software Engineering	SESE1113	3
Computer Communications and Networks	SENS3523	3
Computer Communications and Networks Lab	SENS3521	1
Information Security	SENS4533	3
Human Computer Interaction	SESE2123	3
Software Requirements Engineering	SESD2213	3
Software Design and Architecture	SESD2223	3
Software Construction and Development	SESD3243	3
Software Quality Engineering	SESM3313	3
Software Project Management	SESM4323	3
Software Re-engineering	SESE4143	3
Web Engineering	SESD3233	3

# b) Math Science Foundation Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Calculus and Analytical Geometry	SESS1713	3
Basic Electronics	SESS1723	3
Linear Algebra	SESS2743	3
Probability and Statistics	SESS2733	3

# c) Humanities Courses (18 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
English Composition & Comprehension	SEHU1833	3
Pakistan Studies	SEHU1813	3
Islamic and Religious Studies	SEHU1823	3
Communication & Presentation Skills	SEHU1863	3
Technical and Business Writing	SEHU2873	3
Professional Practices	SEGE3953	3

# d) Supporting Courses (09 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Supporting I	SEZZzzz3	3
Supporting II	SEZZzzz3	3
Supporting III	SEZZzzz3	3



# Any 03 of the following courses.

Course Title	Code	Cr. Hrs.
Business Process Engineering	SEST2613	3
Formal Methods in Software Engineering	SESE3133	3
Operations Research	SESS3763	3
Simulation and Modeling	SESD4263	3
Stochastic Processes	SESS3753	3

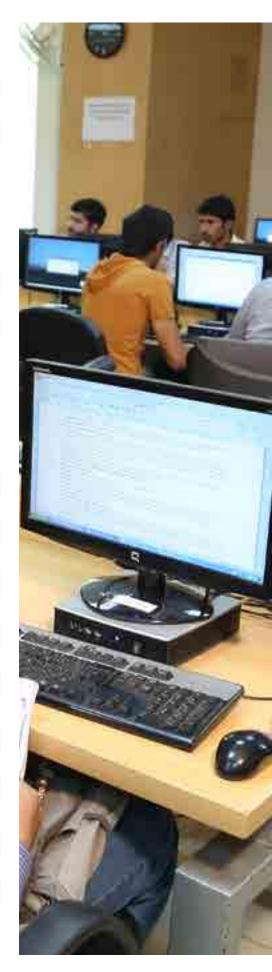
# e) Software Engineering Elective Courses (15 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
SE Elective I	SEZZzzz3	3
SE Elective II	SEZZzzz3	3
SE Elective III	SEZZzzz3	3
SE Elective IV	SEZZzzz3	3
SE Elective V	SEZZzzz3	3

# (List of Software Engineering Elective Courses)

Following list is non-exhaustive.

Course Title	Code	Cr. Hrs.
Object Oriented Software Engineering	SESE4153	3
Web Application Development	SECP4063	3
Software Configuration Management	SESM4333	3
Software Development Risk Analysis	SESM4343	3
Artificial Intelligence	SEAD3433	3
Mobile Application Development	SECP3053	3
Data Science	SEAD3443	3
Multimedia Communication	SENS4543	3
Global Software Development	SEST4623	3
Game Application Development	SEST4633	3
Design Patterns	SEST4653	3
Computer Graphics	SEST3663	3
Software Analysis and Design	SESD4273	3
Semantic Web	SEST4643	3
Cloud Computing	SEST3673	3
Software Testing	SESD3253	3
Software Quality Assurance	SESM3363	3
Machine Learning	SEAD3453	3
Big Data Programming	SECP4073	3





## f) University Elective Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
UCP Elective I	SEZZzzz3	3
UCP Elective II	SEZZzzz3	3
UCP Elective III	SEZZzzz3	3
UCP Elective IV	SEZZzzz3	3

## (List of University Electives Courses)

Following list is non-exhaustive.

Course Title	Code	Cr. Hrs.
Introduction to Psychology	SEHU1843	3
Foreign Language	SEHU1853	3
Introduction to Business	SEGE1913	3
Introduction to Game Production	SEGE2923	3
Technical Entrepreneurship	SEGE2933	3
Creative Graphics	SEGE3943	3
Fundamentals of Marketing	SEGE3963	3
Human Resource Management	SEGE1923	3

# g) Design Project (06 Cr. Hrs.)

After the completion of 90 Cr. Hrs. the students are required to demonstrate their practical skills in the field of software engineering by designing and implementing a design project worth 6 Cr. Hrs. The project shall be completed in two parts as given below:

Course Title	Code	Cr. Hrs.
Final Year Project I	SESD4913	3
Final Year Project II	SESD4923	3

# Community Service (SE4000)

Each student is required to complete 65 hours community work, usually after 4th semester which would be a prerequisite to clear the student for the award of degree.

# **Program Duration**

This is a four-year degree program comprising of 8 semesters with a minimum of 133 Cr. Hrs. There will be a Fall and a Spring semester in each year. The summer semester will be utilized for internship or deficiency courses. The minimum and maximum duration to complete BS Software Engineering degree is 04 and 07 years, respectively.

# Scheme of Studies: BS Software Engineering Program

## Semester-I (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
SECP1013	Introduction to Computing	Core	3
SECP1011	Introduction to Computing Lab	Core	1
SEHU1833	English Composition & Comprehension	Humanities	3
SESS1713	Calculus and Analytical Geometry	Math Science	3
SESS1723	Basic Electronics	Math Science	3
SEHU1813	Pakistan Studies	Humanities	3

# Semester-II (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
SECP1023	Programming Fundamentals	Core	3
SECP1021	Programming Fundamentals Lab	Core	1
SEHU1863	Communication & Presentation Skills	Humanities	3
SEAD1413	Discrete Structures	Core	3
SESE1113	Software Engineering	Core	3
SEHU1823	Islamic and Religious Studies	Humanities	3

# Semester-III (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
SECP2033	Object Oriented Programming	Core	3
SECP2031	Object Oriented Programming Lab	Core	1
SESD2213	Software Requirements Engineering	Core	3
SESE2123	Human Computer Interaction	Core	3
SESS2743	Linear Algebra	Math Science	3
SEZZzzz3	UCP Elective I	Uni Elective	3

#### Semester-IV (16 Cr. Hrs.)

Course Code	Course Title		Category	Cr. Hrs.
SECP2043	Data Structures and Algorithms		Core	3
SECP2041	Data Structures and Algorithms Lab		Core	1
SESD2223	Software Design and Architecture		Core	3
SESS2733	Probability and Statistics Math Science		3	
SEZZzzz3	Supporting I		Supporting	3
SEHU2873	Technical and Business Writing		Humanities	3

# Scheme of Studies: BS Software Engineering Program

## Semester-V (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
SENS3513	Operating Systems	Core	3
SENS3511	Operating Systems Lab	Core	1
SEAD3423	Introduction to Database Systems	Core	3
SEAD3421	Introduction to Database Systems Lab	Core	1
SESD3233	Web Engineering	Core	3
SEZZzzz3	UCP Elective II	Uni Elective	3
SEZZzzz3	Supporting II	Supporting	3

## Semester-VI (19 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
SESM3313	Software Quality Engineering	Core	3
SENS3523	Computer Comm. and Networks	Core	3
SENS3521	Computer Comm. and Networks Lab	Core	1
SEGE3953	Professional Practices	Humanities	3
SESD3243	Software Construction and Development	Core	3
SEZZzzz3	SE Elective I	SE Elective	3
SEZZzzz3	Supporting III	Supporting	3

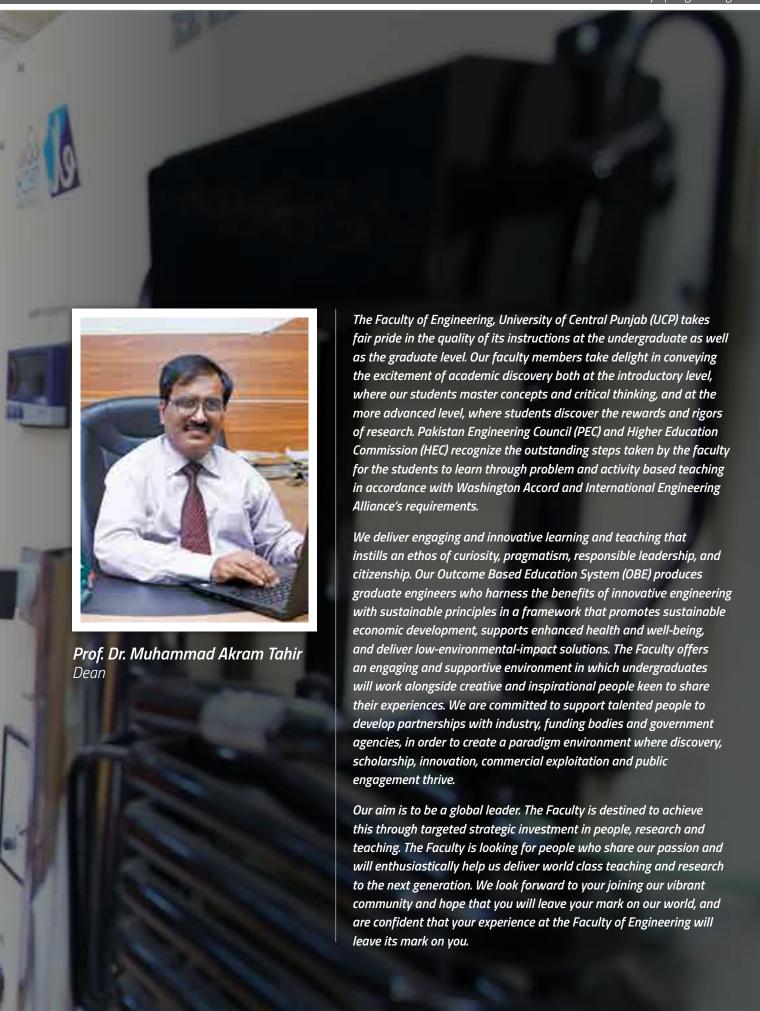
## Semester-VII (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
SENS4533	Information Security	Core	3
SESM4323	Software Project Management	Core	3
SESE4143	Software Re-engineering	Core	3
SEZZzzz3	SE Elective II	SE Elective	3
SEZZzzz3	SE Elective III	SE Elective	3
SESD4913	Final Year Project I	Core	3

## Semester-VIII (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
SEZZzzz3	SE Elective IV	SE Elective	3
SEZZzzz3	SE Elective V	SE Elective	3
SEZZzzz3	UCP Elective III	Uni Elective	3
SEZZzzz3	UCP Elective IV	Uni Elective	3
SESD4923	Final Year Project II	Core	3





# Department of Electrical Engineering



**Dr. Ali Nasir** HoD

# HoD's Message

Electrical engineering at UCP is more than designing and developing of electrical circuits and systems. We take pride in mentoring individuals into becoming useful members of the society by employing professional ethics, critical thinking, societal and environmental awareness, team work, and lifelong learning. We have world class faculty with more than ten PhD members and more than twenty Master's degree holders who have obtained their post graduate education from renowned institutions all over the world including USA, UK, Germany, Austria, Italy, Thailand and China. Being accredited by Pakistan Engineering Council at Washington Accord level, our ambition is higher than ever before. We thrive to work hard on the professional grooming of our students so that when they graduate, they can find their places in the international job market, multinational companies, and even start something of their own and be the leaders. In this regard, we aid classroom teaching and hands on laboratory work with participation in national and international student competitions, industrial tours, industry-inspired final year projects, and internships.

If you are looking to become a well-rounded professional in the field of electrical engineering, the department of electrical engineering at UCP is the place to be. We look forward to providing you the skills, the knowledge, and most importantly the attitude that you need to excel not just individually but as part of the community, our community, the UCP family.

#### Accreditation Status

All batches graduated from the department of Electrical Engineering have been accredited by the Pakistan Engineering Council (PEC). Batches 2014 and 2015 are accredited on level II (Washington Accord).



Faculty Members

#### Dr. Nazar Hussain Malik

PhD Power Systems Engineering (University Of Windsor, Canada)
MSc Power Systems Engineering (University Of Windsor, Canada)
BSc Electrical Engineering (University of Engineering and Technology, Lahore)
Professor



#### Dr. Ali Nasir

PhD Control Systems (University of Michigan Ann Arbor, USA)
MSc Control Systems (University of Michigan Ann Arbor, USA)
BSc Electrical Engineering (University of Engineering and Technology, Taxila)
Associate Professor/HOD EE



#### Dr. Sarwar Ehsan

PhD Electrical Engineering (Graz University, Austria)
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(University of the Punjab, Lahore)
Associate Professor



Dr. Ali Faisal Murtaza

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Dr. Muhammad Kamran Saleem

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Dr. Muhammad Rafiq

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Sciences & Technology, Topi)
Assistant Professor



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Ms. Asfar Nisar

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## Engr. Muhammad Umar

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(University of Engineering & Technology, Lahore)

Lecturer



## Engr. Jawad Khalid

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#### Engr. Ali Ahmad

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Engr. Ali Awais

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Ms. Afifa Sadaqat

M.Phil Physics (University of the Punjab, Lahore) BSc Physics (University of the Punjab, Lahore) Lecturer





# Electrical Engineering Laboratories

The Electrical Engineering Department has well equipped laboratories with state-of- the-art apparatus to support its undergraduate and graduate degree programs and the detail of which is as under:

# Electrical Machines Laboratory

This lab has facilities to perform experiments related to DC machines, Transformers and Induction machines. Three new test benches have been added to this lab and the workstations in the lab have been increased to 10 in number. Tests of every electrical machine, related to the undergraduate coursework, can be performed in this lab.

# Electronics Engineering Laboratory

The Electronics Engineering Laboratory is equipped with the state of the art digital and analog instruments. The lab supports practical work for electronics, integrated electronics and power electronics. Here, the students also learn the use of electronic instruments.

# Telecommunication Laboratory

Telecommunication Engineering Lab has 12 workstations equipped with the latest ana- log & digital test and measuring instruments, Radar Communication trainers, Electro optic trainers and Telecommunication trainers. Experiments relating to AM & FM Modulation, Demodulation, Digital Optical Communication, Data Communication, etc. can also be performed in this lab.

# Power Engineering Laboratory

A state of the art power engineering lab has recently been established to provide training in the following areas: I) Generation II) Transmission III) Protection and IV) Distribution. ETAP teaching software has been provided to conduct various experi- ments.

# Microwaves & Communication Systems Engineering Laboratory

The microwave-engineering lab is well equipped to provide an excellent

grounding in basic microwave measurements right from analysis to the design and investigation of complete microwave systems. This lab facilitates students to acquire hands-on hardware design experience and good insight into the structure of microwave integrated circuits (MIC). Recently, this lab has been equipped with latest analog and digital communication trainers (BISKITT).

# Control Engineering Laboratory

Control System Lab is a platform to provide hardware-based practical experience to the students. Since control system is an interdisciplinary course, a rich set of experiments has been developed to help students understand different applications of the course. The lab contains a number of trainers namely ball bearing trainer, magnetic levitation trainer and inverted pendulum trainer. This lab is also equipped with feedback control instruments.



# Bachelor of Science in Electrical Engineering

# **Program Educational** Objectives (PEOs)

The graduates of the program of B.Sc. Electrical Engineering will be equipped with ethics, skills, and knowledge related to key domains in electrical engineering required to perform and excel in the industry. The objectives of this program are to produce engineers who will demonstrate:

- Work productively as Electrical Engineers exhibiting technical knowledge and problem solving skills in the industry and academia.
- (ii) Analyze and provide engineering solutions with socioenvironmental awareness and ethical responsibility.
- (iii) Perform professional duties individually or in a team, following project management procedures with effective communication skills.
- (iv) Avail learning opportunities, keeping abreast with usage of modern tools to maintain and enhance professional growth.

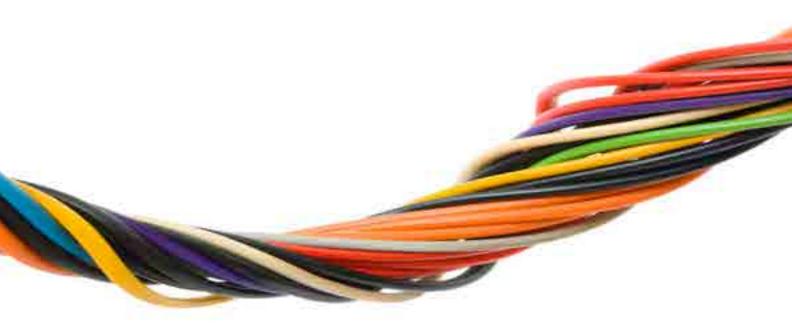
# **Program Learning** Outcomes (PLOs)

At the time of graduation, the graduates of B.Sc. EE program will possess the following attributes:

- Engineering Knowledge: An ability to apply knowledge of Mathematics, Science, Engineering Fundamentals and an Engineering specialization to the solution of complex engineering problems.
- **Problem Analysis:** An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of Mathematics, Natural Sciences and Engineering Sciences.
- (iii) Design/Development of Solutions: An ability to design solutions for com- plex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and

environmental considerations.

- (iv) Investigation: An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.
- (v) Modern Tool Usage: An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.
- (vi) The Engineer and Society: An ability to apply reasoning informed by con- textual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.



- (vii) Environment and Sustainability:

  An ability to understand
  the impact of professional
  engineering solutions in societal
  and environmental contexts and
  demonstrate knowledge of and
  need for sustainable development.
- (viii) **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
- (ix) Individual and Team Work:
  An ability to work effectively,
  as an individual or in a team,
  on multifaceted and /or
  multidisciplinary settings.
- (x) Communication: An ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being

- able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- (xi) **Project Management:** An ability to demonstrate management skills and apply engineering principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.
- (xii) **Lifelong Learning:** An ability to recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

# Admission Requirements

(i) Higher Secondary School Certificate (F.Sc. Pre-Engineering) or Equivalent with Physics, Chemistry and Mathematics securing at least 60% marks in aggregate. In case of foreign qualification, equivalence from IBCC will be required

OR

diploma of Associate Engineer Examination in relevant discipline securing at least 60% marks in aggregate (up to 2% of maximum allowed seats).

(ii) UCP Admission Test or HEC approved test.

# Degree Requirements

Each candidate for the B.Sc. Electrical Engineering degree is required to successfully earn 135/136 Cr. Hrs. with the minimum CGPA of 2.0 on the scale of 4.0 as per the following detail:

Area	Cr. Hrs.
a) Electrical Engineering Foundation Courses	24
b) Natural Sciences	19
c) Computing Courses	10
d) Electrical Engineering Core Courses	27
e) Electrical Engineering Elective Courses / Depth Courses	18/19
f) Humanities Courses	15
g) Management Sciences	09
h) Inter Departmental Engineering Elective (IDEE)	07
i) Industrial Internship	00
j) Design Project	06
Total	135/136



### a) Electrical Engineering Foundation Courses (24 Cr. Hrs.)

Course Title	Codo	Culling
Course Title	Code	Cr. Hrs.
Electrical Workshop	EE1411	1
Linear Circuit Analysis	EE1813	3
Linear Circuit Analysis Lab	EE1811	1
Electronic Devices and Circuits	EE2423	3
Electronic Devices and Circuits Lab	EE2421	1
Electrical Network Analysis	EE2823	3
Electrical Network Analysis Lab	EE2821	1
Digital Logic Design	EE2313	3
Digital Logic Design Lab	EE2311	1
Signals and Systems	EE2713	3
Signals and Systems Lab	EE2711	1
Probability Methods for Engineers	EEMT4053	3

### b) Natural Sciences Courses (19 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Applied Mathematics I	EEMT1013	3
Applied Physics	EE1113	3
Applied Physics Lab	EE1111	1
Applied Mathematics II	EEMT1023	3
Applied Mathematics III	EEMT2033	3
Multivariable Calculus	EEMT2063	3
Natural Science Elective	EEXX30x3	3

### c) Computing Courses (10 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Computing	EECS1012	2
Fundamentals of Programming	EECS1023	3
Fundamentals of Programming Lab	EECS1021	1
Data Structures and Algorithms	EECS2033	3
Data Structures and Algorithms Lab	EECS2031	1

# d) Electrical Engineering Core Courses (27 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Electrical Machines	EE2833	3
Electrical Machines Lab	EE2831	1
Introduction to Embedded Systems	EE3323	3
Introduction to Embedded Systems Lab	EE3321	1
Electromagnetic Field Theory	EE3523	3
Communication Systems	EE3533	3
Communication Systems Lab	EE3531	1
Linear Control Systems	EE3613	3
Linear Control Systems Lab	EE3611	1
Breadth Core I	EE3xx3	3
Breadth Core I Lab	EE3xx1	1
Breadth Core II	EE3xx3	3
Breadth Core II Lab	EE3xx1	1

### e) Electrical Engineering Elective Courses / Depth Electives (18/19 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Depth Elective I	EE3xx3	3
Depth Elective I Lab	EE3xx1	1
Depth Elective II	EE4xx3	3
Depth Elective II Lab	EE4xx1	1
Depth Elective III	EE4xxx	3/4
Depth Elective IV	EE4xx3	3
Depth Elective IV Lab	EE4xx1	1
Depth Elective V	EE4xx3	3



# *i) Electronics and Telecommunications Engineering*

Course Title	Code	Cr. Hrs.
Computer Communications and Networks	EETEx513	3
Computer Communications and Networks Lab	EETEx511	1
Instrumentation and Measurement	EETEx413	3
Instrumentation and Measurement Lab	EETEx411	1
ASIC Design and FPGAs	EETEx313	3
Digital Signal Processing	EETEx713	3
Digital Signal Processing Lab	EETEx711	1
Microcontroller Based Embedded Systems	EETEx323	3
Microcontroller Based Embedded Systems Lab	EETEx321	1
Digital Communications	EETEx523	3
Digital Communications Lab	EETEx521	1
Analog Integrated Electronics	EETEx423	3
VLSI Design	EETEx333	3
Industrial Electronics	EETEx343	3
Digital Electronics	EETEx353	3
Microwave Engineering	EETEx533	3
Microwave Engineering Lab	EETEx531	1
Antenna Theory and Design	EETEx543	3
Wireless Communication	EETEx553	3
Systems Programming	EECSx043	3
Digital Control Systems	EETEx613	3
Numerical Analysis	EEMTx053	3

### ii) Power Engineering

Course Title	Code	Cr. Hrs.
Power Distribution and Utilization	EEPEx813	3
Power Distribution and Utilization Lab	EEPEx811	1
Power Transmission	EEPEx823	3
Power Generation	EEPEx833	3
Power Electronics	EEPEx413	3
Industrial Electronics	EEPEx423	3
Power System Protection	EEPEx843	3
Power System Protection Lab	EEPEx841	1
Advanced Electrical Machine Design	EEPEx853	3
High Voltage Engineering	EEPEx863	3
Renewable Energy Systems	EEPEx433	3
Industrial Process Engineering	EEPEx623	3
Industrial Process Engineering Lab	EEPEx621	1
Smart Grid	EEPEx873	3
Power Stability and Control	EEPEx883	3

# iii) Computer Engineering

Course Title	Code	Cr. Hrs.
Digital Image Processing	EECSx713	3
Computer Vision	EECSx723	3
Introduction to Artificial Intelligence	EECSx213	3
Introduction to Artificial Intelligence Lab	EECSx211	1
Introduction to Data Science	EECSx223	3
Introduction to Data Science Lab	EECSx221	1
Operating Systems	EECSx233	3
Machine Learning	EECSx243	3
Internet of Things	EECSx253	3



### f) Humanities Courses (15 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
English I	EEHU1013	3
Pakistan Studies	EEHU1043	3
Islamic Studies	EEHU1053	3
English II	EEHU2023	3
English III	EEHU3033	3

### g) Management Sciences (09 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Engineering Economics	EEMG3013	3
Entrepreneurship	EEMG4033	3
Engineering Management	EEMG4043	3

### h) Inter Departmental Engineering Elective (07 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Engineering Drawing	EEME1021	1
Basic Mechanical Engineering	EEME1033	3
Thermodynamics	EEME2043	3

### i) Industrial Internship (EE4000)

Each student is required to complete an 8-week industrial internship training usually after 6 semesters or on the completion of 90 Cr. Hrs. The internship shall be graded as pass/fail.

### j) Design Project (06 Cr. Hrs.)

After the completion of 90 Cr. Hrs., the students are required to demonstrate their practical skills in the field of Electrical Engineering by designing and implementing a design project worth 6 Cr. Hrs. The project shall be completed in two parts as given below:

Course Title	Code	Cr. Hrs.
Design Project I	EE4912	2
Design Project II	EE4924	4

### Community Work (EE3000)

Each student is required to complete 65 hours of community work, usually after 4th semester which would be a prerequisite for the award of degree.

### **Program Duration**

This is a four-year degree program comprising of 8 semesters. There will be a Fall and a Spring semester in each year. The summer semester will be utilized for internship or deficiency courses. The maximum duration to complete B.Sc. Electrical Engineering degree is 7 years.

# Scheme of Studies B.Sc. in Electrical Engineering

Semester-I (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EECS1012	Introduction to Computing	Computing	2
EE1411	Electrical Workshop	EE Foundation	1
EEMT1013	Applied Mathematics I	Natural Sciences	3
EE1113	Applied Physics	Natural Sciences	3
EE1111	Applied Physics Lab	Natural Sciences	1
EEHU1013	English I	Humanities	3
EEHU1043	Pakistan Studies	Humanities	3

Semester-II (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EE1813	Linear Circuit Analysis	EE Foundation	3
EE1811	Linear Circuit Analysis Lab	EE Foundation	1
EEME1021	Engineering Drawing	IDEE	1
EEME1033	Basic Mechanical Engineering	IDEE	3
EEMT1023	Applied Mathematics II	Natural Sciences	3
EEHU1053	Islamic Studies	Humanities	3
EECS1023	Fundamentals of Programing	Computing	3
EECS1021	Fundamentals of Programing Lab	Computing	1

Semester-III (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EECS2033	Data Structures and Algorithms	Computing	3
EECS2031	Data Structures and Algorithms Lab	Computing	1
EE2423	Electronic Devices and Circuits	EE Foundation	3
EE2421	Electronic Devices and Circuits Lab	EE Foundation	1
EE2823	Electrical Network Analysis	EE Foundation	3
EE2821	Electrical Network Analysis Lab	EE Foundation	1
EEME2043	Thermodynamics	IDEE	3
EEMT2033	Applied Mathematics III	Natural Sciences	3

Semester-IV (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EE2313	Digital Logic Design	EE Foundation	3
EE2311	Digital Logic Design Lab	EE Foundation	1
EE2713	Signals and Systems	EE Foundation	3
EE2711	Signals and Systems Lab	EE Foundation	1
EE2833	Electrical Machines	EE Core	3
EE2831	Electrical Machines Lab	EE Core	1
EEMT2063	Multivariable Calculus	Natural Sciences	3
EEHU2023	English II	Humanities	3

# Scheme of Studies B.Sc. in Electrical Engineering

### Semester-V (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EE3323	Introduction to Embedded Systems	EE Core	3
EE3331	Introduction to Embedded Systems Lab	EE Core	1
EE3523	Electromagnetic Field Theory	EE Core	3
EEXX3xx3	Breadth Core I	EE Core	3
EEXX3xx1	Breadth Core I Lab	EE Core	1
EE3533	Communication Systems	EE Core	3
EE3531	Communication Systems Lab	EE Core	1
EEXX30x3	Natural Science Elective*	Natural Sciences	3
	*Multivariable Calculus (EEMT3073)/ Discrete Mathematics (EEMT3083)/	Numerical Analysis	

(EEMT3093)/ Biology(EEBI3013

### Semester-VI (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EEXX3xx3	Breadth Core II	EE Core	3
EEXX3xx1	Breadth Core II Lab	EE Core	1
EEXX3xx3	Depth Elective I	EE Elective	3
EEXX3xx1	Depth Elective I Lab	EE Elective	1
EE3613	Linear Control Systems	EE Core	3
EE3611	Linear Control Systems Lab	EE Core	1
EEMG3013	Engineering Economics	Management	3
EEHU3033	English III	Humanities	3

### Semester-VII (15/16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EEXX4xx3	Depth Elective II	EE Elective	3
EEXX4xx1	Depth Elective II Lab	EE Elective	1
EEXX4xxx	Depth Elective III	EE Elective	3/4
EEMG4033	Entrepreneurship	Management	3
EEMT4053	Probability for Engineers	EE Foundation	3
EE4912	Design Project I	Design Project	2

### Semester-VIII (14 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EEXX4xx3	Depth Elective IV	EE Elective	3
EEXX4xx1	Depth Elective IV Lab	EE Elective	1
EEXX4xx3	Depth Elective V	EE Elective	3
EEMG4043	Engineering Management	Management	3
EED4924	Design Project II	Design Project	4

# Master of Science in Electrical Engineering

### Admission Requirements

- (i) A minimum of 16 years of education leading to BS / BE / B.Sc. in Electrical / Electronics / Telecommunications Engineering or equivalent
- (ii) Minimum 2.00/4.00 CGPA or 50% marks in annual system
- (iii) Admission Test/HEC Approved Test

### Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- (i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate for the M.Sc. Electrical Engineering degree is required to successfully earn 30 Cr. Hrs. as per the following detail:

	Area	Cr. Hrs.
a)	Core Courses	06
<i>b)</i>	Specialization Courses	15
c)	Elective	03
d)	Thesis/Project/Additional Courses	06
	Total	30

#### a) Core Courses

Course Title	Code	Cr. Hrs.
Linear System Theory	EE5613	3
Advanced Probability	EE5513	3

### b) Specialization Courses

### i) Power and Control

Course Title	Code	Cr. Hrs.
Power Sytems Analysis	EE5813	3
Advanced Power Systems	EE5823	3
Switch Mode Power Supplies	EE5833	3
Photovoltaic Based Energy Systems	EE5843	3
High Voltage Equipment	EE5853	3
High Voltage Engineering	EE5863	3
Distributed Control of Multiagent Systems	EE5623	3
Nonlinear Control Systems	EE5633	3





### ii) Electronics and Telecommunication

Course Title	Code	Cr. Hrs.
Advanced Antenna Design	EE5523	3
Advanced Microwave Engineering	EE5533	3
Graph Theory	EE5213	3
Satellite Communication	EE5543	3
Advanced Computer Architecture	EE5313	3

### c) Elective Courses

A student may choose 3 to 9 Cr. Hrs., depending upon the degree completion option, from the given list or any other course offered by the EE department.

Course Title	Code	Cr. Hrs.
Stochastic Processes	EE5713	3
Advanced Digital Communications	EE5553	3
Cellular and Mobile Communications	EE5563	3
Analog Integrated Electronic Circuits	EE5413	3
Advaced ASIC Design and FPGA	EE5323	3
Advanced Power Electronics	EE5423	3
Renewable Energy Systems	EE5873	3
Smart Grid	EE5883	3

### d) Research Thesis

Course Title	Code	Cr. Hrs.
Research Thesis	EE6916	6
Thesis Continuation	EE6921	1

### 6.3 CGPA Requirement

A student is required to earn a minimum of 2.50/4.00 CGPA on the completion of his/her degree requirements.

### 6.4 Program Duration

This is nominally a two-year degree program comprising of 4 semesters. There will be a Fall and a Spring semester in each year. The maximum duration to complete MS Electrical Engineering degree is 04 years.

# PhD Electrical Engineering

The Department of Electrical Engineering is dedicated to continued innovation through its vibrant dynamic environment and competitive research. The department offers PhD program in Electrical Engineering which covers a wide spectrum of fields keeping up with their fast pace of technological advancement. Its carefully designed PhD program aims at producing researchers in the areas of Telecommunications, Control Systems, Signal and Image Processing, Power Systems, Networks and Computer Systems. To achieve this goal, the department has got a team of highly qualified and dedicated faculty members while establishing a strong liaison with research and development organizations and industry.

### Admission Requirements

- (i) M.Sc. degree in relevant discipline
- (ii) Minimum CGPA 3.00/4.00 (Semester System) or 60% marks (Annual System)
- (iii) Admission Test/HEC Approved Test
- (iv) Interview

### Degree Requirements

A PhD candidate shall be awarded degree on successful completion of the following requirements:

- (i) 18 Cr. Hrs. Course Work with minimum CGPA 3.00/4.00
- (ii) Comprehensive Examination (written and oral)
- (iii) Synopsis Defense
- (iv) 30 Cr. Hrs. Research Work
- (v) Publication of at least one research paper in HEC approved journal
- (vi) Dissertation Foreign Reviews
- (vii) Dissertation Final Defense

**Note:** PhD scholars are required to comply with the following timeline:

Activity	Preferred Time	Maximum
Course Work	2 Semesters	3 Semesters
Comprehensive Exam	3 Semesters	4 Semesters
Synopsis Qualification	4 Semesters	6 Semesters
Thesis Submission	6 Semesters	14 Semesters (7 Years)





# Department Mechanical Engineering



**Dr. Rizwan Shad** HoD

# HoD's Message

The field of Mechanical Engineering has become more interesting and challenging in the modern era in line with the latest industrial revolutions. The Department of Mechanical Engineering at UCP presents one of the best combination of foreign qualified, experienced and young faculty, equipped with modern state of the art labs and follows best practices of engineering education as per PEC and Washington Accord guidelines. The department is motivated to prepare its graduates having up to date engineering knowledge, attitudes and skills that will enable them to become acceptable in the global job markets as well as become successful entrepreneurs of the future. Our curriculum is a blend of classical and modern challenges of the discipline having a diversity of areas including computer-aided design, analysis & manufacturing, thermal, engineering management and interdisciplinary courses like Business & Entrepreneurship, Instrumentation & Control and industrial electronics. Through our strong industrial linkages, we involve our students to solve complex engineering problems of the industry and also provide them ample opportunities to take part in industrial visits and trainings. I welcome you all to become a part of our vibrant teaching-learning environment and research activities.

### **Accreditation Status**

All batches graduated from the department of Mechanical Engineering have been accredited by the Pakistan Engineering Council (PEC). Batches 2014 and 2015 are ac- credited on level II (Washington Accord).



Faculty Members

### Engr. Mumtaz Ul Hasan Zuberi

MSc Mechanical Engineering (University of Engineering & Technology, Lahore) BSc Mechanical Engineering (University of Engineering & Technology, Lahore) Professor



#### Dr. Faiz Ul Hasan

PhD Material Engineering (University of Manchester, UK)

MSc Material Engineering University of Sheffield, UK)

BSc Mechanical Engineering (University of Engineering & Technology, Lahore)

Professor



#### Dr. Rizwan Shad

PhD Applied Mechanics (INSA Toulouse, France)
MSc Mechanical Engineering (INSA Toulouse, France)
BSc Mechanical Engineering (University of Engineering & Technology, Lahore)
Associate Professor/HOD ME



#### Dr. Gulraiz Ahmed

PhD Mechanical Engineering (University of Canterbury, New Zealand) MSc Aerodynamics & Computation (University of Southampton, UK) BSc Aerospace Engineering (Institute of Space Technology, Islamabad) Assistant Professor



### Dr. Zohaib Aftab

PhD, Mechanical Engineering (University Claude Bernard Lyon 1, France) MSc Automation & Robotics (Ecole Centrale de Nantes, Nantes, France) BSc Mechanical Engineering (University of Engineering & Technology, Lahore) Assistant Professor



### Dr. Muhammad Kashif

PhD Engineering Sciences (University Pierre and Marie Curie, Paris, France) MS Engineering Sciences (University Pierre and Marie Curie, Paris, France) BSc Mechanical Engineering (University of Engineering & Technology, Lahore) Assistant Professor



### Engr. Taimur Iqbal Qureshi

MS Mechanical Engineering (National University of Science & Technology, Islamabad) BSc Mechanical Engineering (Govt. Degree College, Jhelum) Assistant Professor



#### Engr. Sadaf Zeeshan

MSc Mechanical Engineering (University of Engineering & Technology, Lahore) BSc Mechanical Engineering (University of Engineering & Technology, Lahore) Assistant Professor



#### Engr. Ahmad Mahmood

MSc Mechanical Engineering (University of Engineering & Technology, Lahore) BSc Mechanical Engineering (University of Engineering & Technology, Lahore) Assistant Professor



#### Engr. Baber Saeed

MSc Mechanical Engineering (University of Birmingham, UK) BSc Mechanical Engineering (University of Engineering & Technology, Lahore) Assistant Professor





Mr. Waheed Ahmed
MA English (University of Sindh, Hyderabad)
Executive Course on Communication Skills (Asia Pacific Centre for Security Studies, Hawaii, USA)
Assistant Professor



Engr. Muhammad Nouman Liaqat
MSc Mechanical Engineering (Ghulam Ishaq Khan Institute of Engineering,
Sciences & Technology, Topi)
BSc Mechanical Engineering (University of Engineering & Technology, Taxila)
Lecturer



Engr. Hurair Tariq

MSc Mechanical Engineering (University of London, UK) ME Mechanical Engineering (NED University, Karachi) BE Mechanical Engineering (NED University, Karachi)

Lecturer



Engr. Umair Naseem

MSc Mechanical Engineering (Brandenburg University of Technology, Germany)

BSc Mechanical Engineering (University of Engineering & Technology, Lahore)

Lecturer





Engr. Qasim Shafqat

MSc Mechanical Engineering (University of Engineering & Technology, Lahore) BSc Mechanical Engineering (University of Engineering & Technology, Lahore) Lecturer



### Engr. Marium Shahid

MSc Mechanical Engineering (University of Engineering & Technology, Lahore) BSc Mechanical Engineering (University of Engineering & Technology, Lahore) Lecturer



### Engr. Khizer Ahmed Zaki

MSc Engineering Management (National University of Science & Technology, Islamabad) BSc Mechanical Engineering (University of Engineering & Technology, Lahore) Lecturer



### Engr. Umer Hayat

MSc Mechanical Engineering (King Fahad University of Petroleum & Minerals, KSA) BSc Mechanical Engineering (University of Engineering & Technology, Peshawar) Lecturer

# Mechanical Engineering Laboratories

### Thermodynamics Lab

The main objective of this fundamental lab is to enable students to gain practical knowledge and skills related to the field of thermal power plants, turbo-machines and energy. The lab is fully equipped to help students to learn the fundamentals and work-ing principles of various instruments, and verify the laws of thermodynamics. The lab- oratory offers various state of the art test beds with latest instruments to understand the operation and performance parameters of thermal equipment like, multi-stage compressor test bed, engine test bed, steam turbine power plant, combustion laboratory unit, and cut models of single and multi-cylinder engines.

# Refrigeration & Air Conditioning (RAC) Lab

The RAC lab is equipped to demonstrate the basic principles of heat transfer and working of heat exchangers and RAC equipment. The laboratory offers apparatus for measuring the fundamental processes like heat conduction, convection and radiation and different thermal properties like thermal conductivity, emissivity etc. The refriger- ation equipment like heat pump, vapour compression and vapour absorption help the students to understand and measure the performance of refrigeration equipment. The laboratory also houses apparatus for the demonstration and analysis of the central air conditioning systems. HVAC laboratory has up to date apparatus with state-of-the-art instrumentation.

# Mechanical Workshop

Mechanical Engineering Department fully endorses the importance of mechanical work- shop for students. A well-equipped workshop, with highly trained staff, provides hands on training on bench working, machining, welding, casting, wood working, and elec-trical machines. Strict rules are applied for workshop practices to make the students conscious about safety. Students can work independently on computer-aided manu-facturing. Imparted workshop training adequately prepare students to conduct their term research projects and fabricate their final year project hardware.

### Fluid Mechanics Lab

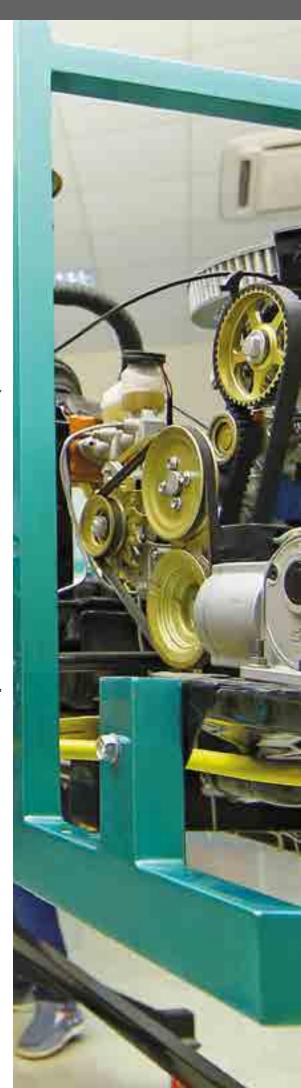
Fluid mechanics laboratory is necessary to build the foundation of engineering students requiring them to master more advanced concepts, processes and equipment. Keeping this in view, fluid mechanics lab offers access to an extensive array of apparatus and equipment experiments. The apparatus housed in fluid mechanics include equipment to verify Bernoulli's theorem, Osborne Reynold's Flow for demonstration of effect of flow speed on turbulence, Jet flow principle, Pipe Friction laws, etc. The advanced equipment is present in order to understand the working and measuring the performance parameters of Impulse and Reaction Turbines, Centrifugal Pumps, and Fluid Friction Apparatus.

# Engineering Statics and Dynamics Lab

Engineering statics and dynamics principles are life time learning for mechanical engineers. This Lab has the latest apparatus to verify the principles and covers experiments to authenticate the theoretical knowledge taught in the subjects of Statics and Dynamics.

# Mechanics of Materials Lab

The Lab is sufficiently equipped with the latest apparatus to conduct





experiments related to mechanical properties and carry out experimental stress analysis. Students get the opportunity to visualize stresses and practically deal with stresses including normal, torsional and flexural stresses, creep, impact loading, fatigue and hardness. Students also analyze structures using strain gauges to verify their computer aided analysis problems.

### Mechanics of Machines Lab

The Lab is designed to verify fundamentals of mechanics of machines and mechanisms. Students understand elements related to the basics of machine including gears, bearings, cams, screws, flywheel, governors, and variety of mechanisms. Students are required to design a mechanism of practical nature and prove its dynamics.

## Computer Aided Design (CAD) Lab

This Lab is established to train students in computer aided design (CAD), computer aided manufacturing (CAM) and computer aided analysis (CAA). The Lab is equipped with core i7 desktops and licensed CAD/CAM/CAA software. Students not only attain skills to work on software like ANSYS, Pro E, and Solid Edge but also utilize the lab to model their final year projects.

# Metrology Lab

Metrology Lab is designed with the objective to enable students to explain principles and issues related to measurement and use of modern and conventional measurement tools precisely for solving problems for quality improvement. It also enables the mechanical engineering graduates to analyze process variations and propose solutions for production quality and satisfy the customer needs in

product and service sector organization. 28 apparatus are available consisting of various gauges for the purpose.

### UCP Bio Mechatronics Lab

The Bio Mechatronics lab at UCP focuses on the development of robotic devices to help people with limb disabilities. The goal is to make modern assistive devices, such as exoskeletons, accessible to disabled people living in countries with severe financial constraints like Pakistan. By taking an integrated approach that combines the knowledge of engineering, biomechanics and the power of inexpensive electronics, we can greatly enhance the performance of existing low-tech assistive devices in use. A major focus area is the walking disabilities which affect around 1 million people in Pakistan. Several exoskeleton prototypes have been developed and tested for polio and spinal cord injuries patients.

The Lab has maintained close collaboration with the local medical industry for an accelerated path to product development. Recently, the Lab has been selected as one of the partner labs of National Centre of Robotics and Automation (NCRA) established by Government of Pakistan and has secured several research findings from various organizations.

# Drawing Hall

A spacious drawing hall is available, equipped with standard drawing tables, to build engineering drawing skills of the students. The concept of transforming a 3D model to 2D drawings is developed. Physical models of various machine elements are demon-strated to the students for better understanding.

# Bachelor of Science in Mechanical Engineering

# Program Educational Objectives (PEOs)

The graduates of B.Sc. Mechanical Engineering will demonstrate knowledge of key technologies applicable in the main areas of Mechanical Engineering. The main objectives of this program are to produce engineers who will:

- (i) Apply knowledge and skills to provide sustainable solutions to challenging Mechanical Engineering problems in industry and academia.
- (ii) Demonstrate professional growth and exhibit continual improvement in learning modern engineering techniques and their applications in practice.
- (iii) Make positive contribution towards society by strong ethical values, communication skills and leadership.

# Program Learning Outcomes (PLOs)

At the time of graduation, the graduates of B.Sc. ME program will possess the following attributes:

- (i) Engineering Knowledge: An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
- (ii) Problem Analysis: An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
- (iii) Design/Development of Solutions: An ability to design solutions for complex engineering

- problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
- (iv) Investigation: An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.
- (v) Modern Tool Usage: An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.
- (vi) The Engineer and Society: An ability to apply reasoning informed by con- textual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.
- (vii) Environment and Sustainability:
  An ability to understand
  the impact of professional
  engineering solutions in societal
  and environmental contexts and
  demonstrate knowledge of and
  need for sustainable development.
- (viii) Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
- (ix) Individual and Team Work:
  An ability to work effectively,
  as an individual or in a team,
  on multifaceted and /or

multidisciplinary settings.

- (x) Communication: An ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- (xi) Project Management: An ability to demonstrate management skills and apply engineering principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.
- (xii) Lifelong Learning: An ability to recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

### Admission Requirements

(i) Higher Secondary School Certificate (F.Sc. Pre-Engineering) or Equivalent with Physics, Chemistry and Mathematics securing at least 60% marks in aggregate. In case of foreign qualification, equivalence from IBCC will be required

OR

diploma of Associate Engineer Examination in relevant discipline securing at least 60% marks in aggregate (up to 2% of maximum allowed seats).

(ii) UCP Admission Test or HEC approved test.

# Degree Requirements

Each candidate for the B.Sc. Mechanical Engineering degree is required to complete successfully 135 Cr. Hrs. with the minimum CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Mechanical Engineering Foundation Courses	25
b)	Mechanical Engineering Breadth Courses	39
c)	Mechanical Engineering Depth Courses	07
d)	Natural Sciences	15
e)	Computing Courses	02
f)	Inter Departmental Engineering Electives (IDEE)	10
g)	Humanities Courses	17
h)	Management Sciences	08
i)	Mechanical Engineering Elective Courses	06
j)	Industrial Internship	00
k)	Design Project	06
	Total	135

# a) Mechanical Engineering Foundation Courses (25 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Engineering Drawing, Auto CAD & Graphics	ME1212	2
Engineering Mechanics-I	ME1513	3
Workshop Technology	ME1312	2
Mechanics of Machines-I	ME2223	3
Fluid Mechanics-I	ME2713	3
Mechanics of Materials-I	ME2523	3
Applied Thermodynamics-I	ME1413	3
Engineering Materials	ME1613	3
Manufacturing Processes-I	ME2813	3

# b) Mechanical Engineering Breadth Courses (39 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Engineering Mechanics-II	ME2533	3
Engineering Mechanics-II Lab	ME2331	1
Mechanics of Machines-II	ME2233	3
Mechanics of Machines-II Lab	ME2231	1
Machine Design-I	ME2243	3

Mechanics of Materials-II	ME2543	3
Mechanics of Materials-II Lab	ME2541	1
Machine Design-II	ME3253	3
Machine Design-II Lab	ME3251	1
Finite Element Analysis	ME3263	3
Finite Element Analysis Lab	ME3261	1
Manufacturing Processes-II	ME3823	3
Manufacturing Processes-II Lab	ME3821	1
Applied Thermodynamics-II	ME2423	3
Applied Thermodynamics-II Lab	ME2421	1
Fluid Mechanics-II	ME3723	3
Fluid Mechanics-II Lab	ME3721	1
Heat & Mass Transfer	ME3433	3
Heat & Mass Transfer Lab	ME3431	1

# c) Mechanical Engineering Depth Courses (07 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
IC Engines	ME3443	3
IC Engines Lab	ME3441	1
Power Plants	ME3453	3

# d) Natural Sciences Courses (15 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Applied Mathematics I	MEMT1013	3
Applied Physics	ME1113	3
Applied Mathematics II	MEMT1023	3
Applied Mathematics III	MEMT2043	3
Numerical Analysis	MEMT3053	3

# e) Computing Courses (02 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Computer System and Programming	MECS 1012	2

### f) Inter Departmental Engineering Electives i) Elective Courses (06 Cr. Hrs.) (10 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Basic Electrical Engineering	MEEE1012	2
Basic Electrical Engineering Lab	MEEE1011	1
Industrial Electronics	MEEE3022	2
Industrial Electronics Lab	MEEE3021	1
Instrumentation & Control	MEEE4033	3
Instrumentation & Control Lab	MEEE4031	1

# g) Humanities Courses (17 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
English I	MEHU1013	3
English II	MEHU1023	3
Islamic Studies	MEHU1053	3
Pakistan Studies	MEHU1043	3
English III	MEHU3033	3
Health, Safety & Environment	MEHU4042	2

## h) Management Sciences (08 Cr. Hrs.)

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Course Title	Code	Cr. Hrs.
Industrial Management & Economics	MEMG4012	2
Entrepreneurship	MEMG4023	3
Metrology and Quality Assurance	MEMG4072	2
Metrology and Quality Assurance Lab	MEMG4071	1
Operational Management	MEMG4033	3
Total Quality Control	MEMG4043	3
Operation Research	MEMG4053	3
Engineering Law	MEMG4063	3

Course Title	Code	Cr. Hrs.
Refrigeration & Air Conditioning	ME3462	2
Refrigeration & Air Conditioning Lab	ME3461	1
Renewable Energy Technology	ME3473	3
Gas Dynamics	ME3733	3
Aerodynamics	ME3743	3
Mechanical Vibrations	ME4552	2
Mechanical Vibrations Lab	ME4551	1
Maintenance Engineering	ME4xx3	3
Introduction to Mechatronics	ME4623	3
Automation and Robotics	ME4633	3
Computational Fluid Dynamics	ME4753	3

### j) Industrial Internship (ME4000)

All students shall be required to undergo accumulated industrial internship of 6 weeks in the 3rd/4th years of studies.

## k) Design Project (06 Cr. Hrs.)

After completing 6 semesters of studies, the student will demonstrate their practical skills in the field of mechanical engineering by undertaking a Final Year Project (FYP). The project stands 6 credit hours and will be completed in 4th year, i.e. 7th and 8th semesters.

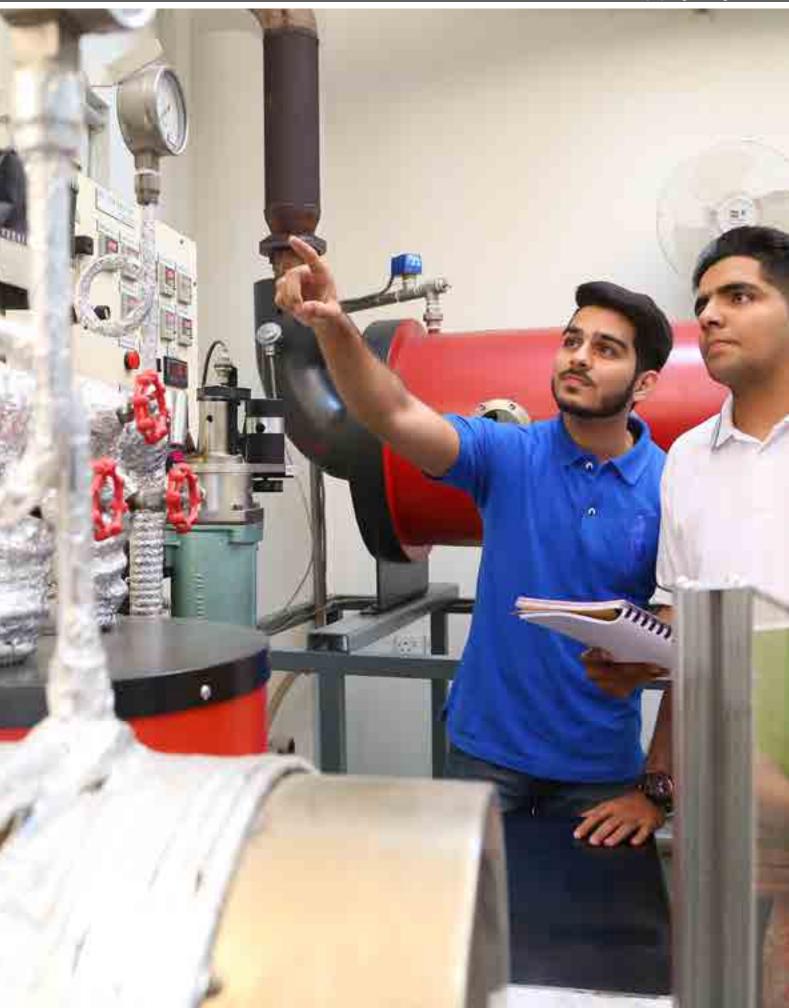
Course Title	Code	Cr. Hrs.
Final Year Project-I	ME4912	2
Final Year Project-II	ME4924	4

# 4.5 Community Work (ME3000)

All students shall be compulsorily rendering 65 hours of voluntary social work during course of studies, which is prerequisite for award of degree.

# 4.6 Program Duration

The program is 4-year bachelor with two semesters per academic year. Fall Semester shall be usually commencing in September/October each year whereas Spring Semester shall be staring in February/March.



# Scheme of Studies B.Sc. in Mechanical Engineering

### Semester-I (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MEHU1013	English I	Humanities	3
MEMT1013	Applied Mathematics I	Natural Sciences	3
ME1113	Applied Physics	Natural Sciences	3
MEHU1053	Islamic Studies	Humanities	3
MECS1012	Computer System and Programming	Computing	2
ME1212	Engineering Drawing, Auto CAD & Graphics	Foundation	2
ME1312	Workshop Technology	Foundation	2

### Semester-II (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
ME1413	Applied Thermodynamics-I	Foundation	3
MEMT1023	Applied Mathematics II	Natural Sciences	3
MEEE1012	Basic Electrical Engineering	IDEE	2
MEEE1011	Basic Electrical Engineering Lab	IDEE	1
ME1613	Engineering Materials	Foundation	3
ME1513	Engineering Mechanics-I	Foundation	3
MEHU1023	English II	Humanities	3

### Semester-III (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
ME2223	Mechanics of Machines-I	Foundation	3
ME2813	Manufacturing Processes-I	Foundation	3
ME2423	Applied Thermodynamics-II	Breadth	3
ME2421	Applied Thermodynamics-II Lab	Breadth	1
ME2523	Mechanics of Materials-I	Foundation	3
ME2533	Engineering Mechanics-II	Breadth	3
ME2531	Engineering Mechanics-II Lab	Breadth	1

### Semester-IV (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MEMT2043	Applied Mathematics III	Natural Sciences	3
ME2233	Mechanics of Machines-II	Breadth	3
ME2231	Mechanics of Machines-II Lab	Breadth	1
ME2713	Fluid Mechanics-I	Foundation	3
ME2243	Machine Design-I	Breadth	3
ME2543	Mechanics of Materials-II	Breadth	3
ME2541	Mechanics of Materials-II Lab	Breadth	1

# Scheme of Studies B.Sc. in Mechanical Engineering

### Semester-V (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MEHU3033	English III	Humanities	3
ME3253	Machine Design-II	Breadth	3
ME3251	Machine Design-II Lab	Breadth	1
ME3723	Fluid Mechanics-II	Breadth	3
ME3721	Fluid Mechanics-II Lab	Breadth	1
ME3823	Manufacturing Processes-II	Breadth	3
ME3821	Manufacturing Processes-II Lab	Breadth	1
MEMT3053	Numerical Analysis	Natural Sciences	3

### Semester-VI (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MEHU3043	Pakistan Studies	Humanities	3
ME3263	Finite Element Analysis	Breadth	3
ME3261	Finite Element Analysis Lab	Breadth	1
ME3433	Heat & Mass Transfer	Breadth	3
ME3431	Heat & Mass Transfer Lab	Breadth	1
MEEE3022	Industrial Electronics	IDEE	2
MEEE3021	Industrial Electronics Lab	IDEE	1
ME3443	IC Engines	Depth	3
ME3441	IC Engines Lab	Depth	1

### Semester-VII (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MEMG4012	Industrial Management and Economics	Management	2
MEEE4033	Instrumentation & Control	IDEE	3
MEEE4031	Instrumentation & Control Lab	IDEE	1
MEMG4023	Entrepreneurship	Management	3
ME4552	Mechanical Vibrations	Elective	2
ME4551	Mechanical Vibrations Lab	Elective	1
MEHU4042	Health, Safety & Environment	Humanities	2
ME4912	Final Year Project	Design Project	2

### Semester-VIII (13 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MEMG4072	Metrology & Quality Assurance	Manage	2
MEMG4071	Metrology & Quality Assurance Lab	Management	1
ME4462	Refrigeration & Air Conditioning	Depth	2
ME4461	Refrigeration & Air Conditioning Lab	Depth	1
ME4453	Power Plants	Depth	3
ME4924	Final Year Project	Design Project	4

# Master of Science in Mechanical Engineering

# Admission Requirements

(i) A minimum of 16 years of education leading to BS / BE / B.Sc. in Mechanical Engineering or equivalent

- (ii) Minimum 2.00/4.00 CGPA or 50% marks
- (iii) Admission Test/HEC Approved Test

## Degree Requirements

A student admitted in M.Sc. Mechanical Engineering will have to complete the degree requirements by following any one of the options given below:

(i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis

(ii) Course work only (10 Courses)

	Area	Cr. Hrs.
a)	Core Courses	06
<i>b)</i>	Specialization Courses	15
c)	Elective	03
d)	Thesis/Project/Additional Courses	06
	Total	30

#### a) Core Courses

Course Title	Code	Cr. Hrs.
Research Methodology	ME5013	3
Modeling and Simulation	ME6023	3

### b) Specialization Courses

i) Design and Manufacturing

, 0		
Course Title	Code	Cr. Hrs.
Advanced Manufacturing Processes	ME5813	3
Mechanics of Fracture and Fatigue	ME5213	3
Advanced Mechanical Vibrations	ME6223	3
Welding and Joining Processes	ME6233	3
Robotics and Control	ME6823	3
Advanced Stress Analysis	ME6243	3

#### ii) Thermal

Course Title	Code	Cr. Hrs.
Automotive Power Trains	ME5413	3
Advanced Thermodynamics	ME5423	3
CFD for Engineering Applications	ME6713	3
Renewable Energy Systems	ME6433	3
Aerodynamics	ME6723	3
Gas Dynamics	ME6733	3



### c) Elective Courses

A student may choose 3 to 9 Cr. Hrs., depending upon the degree completion option, from the given list or any other course offered by the ME department.

course offerea by the IVIE aepartment.		
Course Title	Code	Cr. Hrs.
Theory of Plates and Shells	ME6253	3
Design of Machine Tools	ME6263	3
Engineering Plasticity	ME6273	3
Mechanics of Composite Materials	ME6283	3
Solar Energy Utilization	ME6443	3
Energy Management	ME6453	3
Advanced Propulsion	ME6463	3
Energy Systems	ME6473	3
Advanced Heat and Mass Transfer	ME6513	3
Boiling and Condensation Heat Transfer	ME6523	3
Industrial Air Conditioning and Refrigeration	ME6533	3
Design of Industrial Boilers and Furnaces	ME6543	3
Fuel Cell Technology	ME6553	3
Turbulent Flow	ME6743	3
Boundary Layer Theory	ME6753	3
Two Phase Flow	ME6763	3

Theory of Granular Flows	ME6573	3
Gradient Optimization Techniques	ME6833	3
Nano Fabrication and Manufacturing	ME6843	3
Quality Engineering and Management	ME6853	3
Product Life Cycle Management	ME6863	3
Productivity Engineering	ME6873	3
Experimental Methods	ME5313	3
Scheduling and Sequencing	ME6883	3
Theory of Metal Cutting	ME6893	3

### d) Research Thesis

Course Title	Code	Cr. Hrs.
Research Thesis	ME6916	6
Thesis Continuation	ME6921	1

### CGPA Requirement

A student is required to earn a minimum of 2.50/4.00 CGPA on the completion of his/her degree requirements.

# **Program Duration**

This is nominally a two-year degree program comprising of 4 semesters. There will be a Fall and a Spring semester in each year. The maximum duration to complete MS Mechanical Engineering degree is 04 years.





# Department of Civil Engineering



Dr. Kafeel Ahmed HoD

# HoD's Message

The Department of Civil Engineering is striving hard to impart highest level of excellence in teaching and research. The department has a galaxy of highly experienced Professors and talented young instructors, who leave no stone unturned in delivering state-of-the-art knowledge of Civil Engineering to students, so that they can make their mark in professional excellence and research. The accreditation of B.Sc Civil Engineering Program of UCP at level II by Pakistan Engineering Council is an evidence of our teaching expertise and skills. The advance laboratories of the department, equipped with latest machine and instruments, offer an opportunity to the students to practice hands on skills and improve their professional competence. The Masters pro- gram has set the pace for research and higher standard of education at post graduate level. The significant research output of PhD faculty is an evidence of our progress in this arena. The faculty, students and staff all are committed to transform Civil Engineering Department, one of the best departments at national and international level.

#### Accreditation Status

All batches graduated from the department of Civil Engineering have been accredited by the Pakistan Engineering Council (PEC). Batches 2015 and 2016 are accredited on level II (Washington Accord).



# Faculty Members

#### Dr. Muhammad Akram Tahir

PhD Structural Engineering & Mechanics (Asian Institute of Technology, Bangkok) MEng Structural Engineering & Mechanics (Asian Institute of Technology, Bangkok) BSc Civil Engineering (University of Engineering & Technology, Lahore) Professor / Dean-Faculty of Engineering



#### Prof. Faiz Ahmad Chishti

MSc Hydraulic Engineering (Asian Institute of Technology, Bangkok) BSc Civil Engineering (University of Engineering & Technology, Lahore) Professor



#### Dr. Javed Anwar Aziz

PhD Civil Engineering (University of Birmingham, UK) MSc Environmental Engineering, (University of Engineering & Technology, Lahore) BSc Civil Engineering (University of Engineering & Technology, Lahore) Professor



#### Dr. Kafeel Ahmed

PhD Structural Engineering (University of Engineering & Technology, Lahore) MSc Civil Engineering (University of Engineering & Technology, Lahore) BSc Civil Engineering, (University of Engineering & Technology, Lahore) Professor



Prof. Dr. Syed M. Saeed Shah
PhD Engineering Hydrology (University of Newcastle, UK)
BSc Agriculture Engineering (University of Agriculture, Faisalabad)
Professor



Dr. Muhammad Babur
PhD Water Engineering & Management (Asian Institute of Technology, Bangkok)
MSc Civil Engineering (Mississippi State University, USA)
BSc Civil Engineering (University of Engineering & Technology, Lahore)
Assistant Professor



Dr. Muhammad Awais Shafique
PhD Civil Engineering (TOKYO University, Japan)
MSc Engineering (University of Engineering & Technology, Lahore)
BSc Civil Engineering (University of Engineering and Technology, Lahore)
Assistant Professor



Dr. Khawaja Bilal Ahmed

PhD Water Resources Engineering (University of Nantes, France)

MSc Water Resources Engineering (University of De Caen, France)

BSc Civil Engineering (University of Engineering & Technology, Peshawar)

Assistant Professor



Engr. Mirza Imran Ahmad Khan

MSc Structural Engineering (University of Engineering & Technology, Lahore)

BSc Civil Engineering (University of Engineering & Technology, Lahore)

Assistant Professor



Engr. Muhammad Arshad
M. Arch. (University of Engineering & Technology, Lahore)
MSc Structural Engineering (Michigan State University, USA)
BSc Civil Engineering (University of Engineering & Technology, Lahore)
Assistant Professor



Engr. Javed Rasul

BSc Civil Engineering (University of Engineering & Technology, Lahore)

Assistant Professor



Engr. Aiman Jamshaid

MSc Hydraulics Engineering (University of Stuttgart, Germany) BSc Civil Engineering (University of Engineering & Technology, Lahore) Lecturer



Engr. Muhammad Ahmad

MSc Structural Engineering (University of Engineering & Technology, Lahore) BSc Civil Engineering (University of Engineering & Technology, Lahore) Lecturer



Engr. Burhan Ahmad

MSc Structural Engineer (University of Engineering and Technology, Lahore) BSc Civil Engineering (University of Engineering and Technology, Lahore) Lecturer



Engr. Hannan Saif

MSc Hydraulics & Irrigation Engineering (University of Engineering & Technology, Lahore) BSc Civil Engineering (Bahauddin Zakariya University, Lahore) Lecturer



Engr. Tanveer Younus

MSc Structural Engineering (University of Engineering & Technology, Lahore) BSc Civil Engineering (University of Engineering & Technology, Lahore) Lecturer



Engr. Javairia Mumtaz

MSc Geotechnical Engineering (University of Engineering & Technology, Lahore) BSc Civil Engineering (University of Engineering & Technology, Lahore) Lecturer



Engr. Attiq Ur Rahman Dogar

MSc Civil Engineering (Czech Technical University, Prague, Czesh Republic) BSc Civil Engineering (National University of Science & Technology, Islamabad) Lecturer

# Civil Engineering Laboratories

The Department of Civil Engineering has following laboratories equipped with latest equipment to provide adequate experimentation and testing facilities to the students of B.Sc. and M.Sc. Civil Engineering Programs.

# Engineering Materials Laboratory

Engineering Materials Laboratory deals with the practical aspects of testing the construction materials like concrete, steel, wood, masonry and assessment of their mechanical properties. This laboratory also provides hands-on experience with the facilities for testing aggregate, cement, admixtures and wood. This laboratory is equipped with latest equipment, including universal testing machine, compaction testing machine, Charpy impact test/machine, Rockwell hardness tester, concrete mixing equipment, electronic strain devices and other similar equipment.

# Engineering Mechanics Laboratory

Mechanics forms the underlying scientific foundation for a wide range of engineering endeavors. It bridges the gap between fundamental science and a wide variety of engineering disciplines. This laboratory is equipped with the basic testing equipment to enhance students' knowledge related to statics, applied physics and calculus.

# Fluid Mechanics & Hydraulics Engineering Laboratories

Fluid Mechanics and Hydraulic Engineering Laboratories deals with the properties of fluids, hydrostatics, fluid kinematics, fluid dynamics and open channel. These labs are equipped with state-of-the-art hydraulic flume, turbines, sediment transport apparatus, hydraulic bench, and other modern and latest equipment.

# Structural Engineering Laboratory

This is a state-of-the-art laboratory and is equipped with the latest equipment for structural analysis and strength of materials. This laboratory provides facility for full scale structural testing, model testing, stress analysis, and material property determination of various materials, systems, and structures. A range of large to small-scale experiments relating to tension, flexural, biaxial, compression, and fracture tests can be conducted.

# Geotechnical and Foundation Engineering Laboratory

The Geotechnical and Foundation
Engineering Laboratory is used to
perform experiments related to
geotechnical engineering. It is also
used to apply testing principles to the
measurement of fundamental aspects



of soil behavior from classification to engineering properties such as soil compaction, gradation, plasticity index shear strength using direct shear apparatus, tri- axial compression testing, etc.

# **Environmental Engineering** Laboratory

The Environmental Engineering Laboratory is designed for environmental analyses, including water and wastewater testing and treatability studies along with auxiliary equipment such as an autoclave, incubators, balances, pH meters, and a water purification system. The laboratory is equipped for a broad range of physical, chemical, and biological testing.

# Transportation and Highway Engineering Laboratory

The Transportation and Highway

Engineering Laboratory is equipped to conduct stan- dard tests for asphalt pavement design and paving materials for undergraduate teach-ing. Its supports all standardized tests to assess quality of highway materials and experiments that are conducted in pre-construction, during-construction and post- construction phases of highways. This laboratory contains different equipment used to categorize soil and bitumen binders in terms of their properties and quality control and provides an additional exposure to the testing of highway construction materials for the Civil Engineering students.

### Computer Laboratory

The Computer Engineering Laboratory has a network of the latest computers with CAD/CAM software. The Lab is equipped with core i7 desktops. Students not only attain skills to work on the software, but also utilize the lab to model their final year projects.

### Survey Store

Survey Store is equipped with measuring instruments for distance, vertical and horizon- tal angles, and elevation. It is also used for performing leveling surveys and transverse surveys, and for applying corrections to geodetic observations. Latest Total Station, Theodolites, Levels and allied equipment make it a state-of-the-art facility.



# Bachelor in Civil Engineering

# Program Educational Objectives (PEOs)

The graduates of B.Sc. Civil Engineering will demonstrate knowledge of key technologies applicable in the main areas of Civil Engineering. The main objectives of this program are to produce engineers who will:

- (i) Ensure quality while applying civil engineering practices and will exhibit professional expertise at national and international level.
- (ii) Enhance and improve their knowledge and skills through professional growth and development activities.
- (iii) Serve the society and engineering profession in an ethical manner, considering social, environmental, national and global concerns.

## Program Learning Outcomes (PLOs)

At the time of graduation, the graduates of B.Sc. CE program will possess the following attributes:

- (i) Engineering Knowledge: An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
- (ii) Problem Analysis: An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
- (iii) Design/Development of Solutions: An ability to design solutions for com- plex engineering problems and design systems, components or

- processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
- (iv) Investigation: An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.
- (v) Modern Tool Usage: An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations.
- (vi) The Engineer and Society: An ability to apply reasoning informed



by con-textual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.

(vii) Environment and Sustainability:

An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

- (viii) Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
- (ix) Individual and Team Work:

  An ability to work effectively,
  as an individual or in a team,

on multifaceted and /or

multidisciplinary settings.
(x) Communication: An ability to

communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

- (xi) Project Management: An ability to demonstrate management skills and apply engineering principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.
- (xii) Lifelong Learning: An ability to recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

## Admission Requirements

(i) Higher Secondary School

Certificate (F.Sc. Pre-Engineering) or Equivalent with Physics,
Chemistry and Mathematics
securing at least 60% marks
in aggregate. In case of foreign
qualification, equivalence from
IBCC will be required

- OR
  diploma of Associate Engineer
  Examination in relevant discipline
  securing at least 60% marks in
  aggregate (up to 2% of maximum
  allowed seats).
- (ii) UCP Admission Test or HEC approved test.

### Degree Requirements

Each candidate for the B.Sc. Civil Engineering degree is required to complete successfully 133 Cr. Hrs. with the minimum CGPA of 2.0 on the scale of 4.0 as per the following detail:



	Area	Cr. Hrs.
a)	Civil Engineering Foundation Courses	28
<i>b)</i>	Civil Engineering Breadth Courses	15
c)	Civil Engineering Depth Courses	33
d)	Natural Sciences	19
e)	Computing Courses	02
f)	Inter Departmental Engineering Elective (IDEE)	09
g)	Humanities Courses	15
h)	Management Courses	06
i)	Industrial Internship	00
j)	Survey Camp	00
k)	Design Project	06
	Total	133

# a) Civil Engineering Foundation Courses (28 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Strength of Materials I	CE2212	2
Strength of Materials I Lab	CE2211	1
Theory of Structures I	CE3233	3
Theory of Structures I Lab	CE3231	1
Civil Engineering Drawing	CE1112	2
Civil Engineering Materials	CE1122	2
Civil Engineering Materials Lab	CE1121	1
Engineering Surveying I	CE1142	2
Engineering Surveying I Lab	CE1152	2
Civil Engineering Drawing & Estimation	CE2181	1
Civil Engineering Drawing & Estimation Lab	CE2182	2
Fluid Mechanics-I	CE2412	2
Fluid Mechanics-I Lab	CE2411	1
Engineering Geology	CE1133	3
Soil Mechanics	CE3512	2
Soil Mechanics Lab	CE3511	1

## b) Civil Engineering Breadth Courses (15 Cr. Hrs.)

3, ciri 218, ciri 8 2 cada a codi 503 (13 ciri 13)			
Course Title	Code	Cr. Hrs.	
Plain and Reinforced Concrete I	CE3262	2	
Plain and Reinforced Concrete I Lab	CE3261	1	
Engineering Surveying II	CE2172	2	
Engineering Surveying II Lab	CE2171	1	
Fluid Mechanics II	CE3422	2	
Fluid Mechanics II Lab	CE3421	1	
Transportation Engineering I	CE4532	2	
Transportation Engineering I Lab	CE4531	1	
Environmental Engineering I	CE3612	2	
Environmental Engineering I Lab	CE3611	1	

# c) Civil Engineering Depth Courses (33 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Steel Structures	CE3242	2
Steel Structures Lab	CE3241	1
Plain and Reinforced Concrete II	CE4272	2
Plain and Reinforced Concrete II Lab	CE4271	1
Design of Structures	CE4201	1
Design of Structures Lab	CE4211	1
Structural Engineering	CE4283	3
Hydraulics Engineering	CE4442	2
Hydraulics Engineering Lab	CE4441	1
Irrigation and Drainage Engineering	CE4452	2
Irrigation and Drainage Engineering Lab	CE4451	1
Geotechnical & Foundation Engineering	CE4522	2
Geotechnical & Foundation Engineering Lab	CE4521	1
Transportation Engineering II	CE4542	2
Transportation Engineering II Lab	CE4541	1
Environmental Engineering II	CE4622	2
Environmental Engineering II Lab	CE4621	1
Strength of Materials II	CE3223	3

Strength of Materials II Lab	CE3221	1
Theory of Structures II	CE3252	2
Theory of Structures II Lab	CE3251	1

### d) Natural Sciences Courses (19 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Applied Mathematics I	CEMT1013	3
Applied Mathematics II	CEMT1023	3
Applied Mathematics III	CEMT2033	3
Engineering Mechanics	CEME2023	3
Engineering Mechanics Lab	CEME2021	1
Numerical Analysis	CEMT2043	3
Probability and Statistics	CEMT3053	3

### e) Computing Courses (02 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Computer Programming	CECS1011	1
Computer Programming Lab	CECS1021	1

### f) Inter Departmental Engineering Elective (09 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Basic Electro Mechanical Engineering	CEME1013	3
Basic Electro Mechanical Engineering Lab	CEME1011	1
Architectural and Town Planning	CE2162	2
Entrepreneurship	CEMG2013	3

#### g) Humanities Courses (15 Cr. Hrs.)

8,	- /	
Course Title	Code	Cr. Hrs.
English I	CEHU1033	3
Pakistan Studies	CEHU1023	3
Islamic Studies	CEHU1013	3
English II	CEHU2043	3
English III	CEHU3053	3

### h) Management Courses (06 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Construction Engineering and Management	CEMG2313	3
Engineering Hydrology	CE3432	2
Engineering Hydrology Lab	CE3431	1

### i) Industrial Internship (CE4000)

Each student is required to complete an 8-week industrial internship training usually after 6 semesters or on the completion of 90 Cr. Hrs. The internship shall be graded as pass/fail.

### j) Survey Camp (CE3100)

Students are required to register, attend and successfully complete a minimum of 2 weeks of Survey Camp following the fourth semester of their degree program. Course CE2172 is a pre-requisites for Survey Camp. A formal evaluation will be carried out and Pass / Fail grade will be awarded to the students.

### k) Design Project (06 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Civil Engineering Project I	CE4912	2
Civil Engineering Project II	CE4924	4

### Community Work (CE3000)

Each student is required to complete 65 hours community work, usually after 4th semester which would be a prerequisite for the award of degree.

### **Program Duration**

This is a four years degree program comprising of 8 semesters. There will be a Fall and a Spring semester in each year. The summer semester will be utilized for internship or deficiency courses. The maximum duration to complete B.Sc. Civil Engineering degree is 07 years.

# Scheme of Studies B.Sc. in Civil Engineering

Semester-I (15 Cr. Hrs.)

Semester-I (15	Cr. Hrs.)		
Course Code	Course Title	Category	Cr. Hrs.
CEMT1013	Applied Mathematics I	Natural Sciences	3
CEME1013	Basic Electro-Mechanical Engineering	Interdisciplinary	3
CEME 1011	Basic Electro-Mechanical Engineering Lab	Interdisciplinary	1
CEHU1013	Islamic studies	Humanities	3
CE1112	Civil Engineering Drawing	CE Foundation	2
CE1122	Civil Engineering Materials	CE Foundation	2
CE1121	Civil Engineering Materials Lab	CE Foundation	1
Semester-II (18	8 Cr. Hrs.)		
Course Code	Course Title	Category	Cr. Hrs.
CEMT1023	Applied Mathematics II	Natural Sciences	3
CECS1011	Computer Programming	Computing	1
CECS1021	Computer Programming Lab	Computing	1
CEHU1033	English I	Humanities	3
CE1142	Engineering Surveying I	CE Foundation	2
CE1152	Engineering Surveying I Lab	CE Foundation	2
CE1133	Engineering Geology	CE Foundation	3
CEHU1023	Pakistan Studies	Humanities	3
Semester-III (1	8 Cr. Hrs.)		
Course Code	Course Title	Category	Cr. Hrs.
CEMT2033	Applied Mathematics III	Natural Sciences	3
CEME2023	Engineering Mechanics	Natural Sciences	3
CEME2021	Engineering Mechanics Lab	Natural Sciences	1
CE2162	Architecture & Town Planning	Interdisciplinary	2
CEMG2013	Entrepreneurship	Interdisciplinary	3
CE2172	Engineering Surveying II	Breadth	2
CE2171	Engineering Surveying II Lab	Breadth	1
CEMG2313	Construction Engineering & Management	Management	3
Semester-IV (1	15 Cr. Hrs.)		
Course Code	Course Title	Category	Cr. Hrs.
CEMT2043	Numerical Analysis	Natural Sciences	3
CEHU2043	English II	Humanities	3
CE2212	Strength of Materials I	CE Foundation	2
CE2211	Strength of Materials I Lab	CE Foundation	1
CE2181	Civil Engineering Drawing & Estimation	CE Foundation	1
CE2182	Civil Engineering Drawing & Estimation Lab	CE Foundation	2
CE2412	Fluid Mechanics I	CE Foundation	2
CE2411	Fluid Mechanics I Lab	CE Foundation	1

# Scheme of Studies B.Sc. in Civil Engineering

### Semester-V (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CEMT3053	Probability and Statistics	Natural Sciences	3
CE3233	Theory of Structures I	CE Foundation	3
CE3231	Theory of Structures I Lab	CE Foundation	1
CE3242	Steel Structures	Depth	2
CE3241	Steel Structures Lab	Depth	1
CE3223	Strength of Materials II	Depth	3
CE3221	Strength of Materials II Lab	Depth	1
CE3422	Fluid Mechanics II	Breadth	2
CE3421	Fluid Mechanics II Lab	Breadth	1

### Semester-VI (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CE3252	Theory of Structures II	Depth	2
CE3251	Theory of Structures II Lab	Depth	1
CE3262	Plain and Reinforced Concrete I	Breadth	2
CE3261	Plain and Reinforced Concrete I Lab	Breadth	1
CE3432	Engineering Hydrology	Management	2
CE3431	Engineering Hydrology Lab	Management	1
CE3512	Soil Mechanics	CE Foundation	2
CE3511	Soil Mechanics Lab	CE Foundation	1
CE3612	Environmental Engineering I	Breadth	2
CE3611	Environmental Engineering I Lab	Breadth	1
CEHU3053	English III	Humanities	3

### Semester-VII (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CE4272	Plain and Reinforced Concrete II	Depth	2
CE4271	Plain and Reinforced Concrete II Lab	Depth	1
CE4442	Hydraulics Engineering	Depth	2
CE4441	Hydraulics Engineering Lab	Depth	1
CE4522	Geotechnical & Foundation Engineering	Depth	2
CE4521	Geotechnical & Foundation Engineering Lab	Depth	1
CE4532	Transportation Engineering I	Breadth	2
CE4531	Transportation Engineering   Lab	Breadth	1
CE4622	Environmental Engineering II	Depth	2
CE4621	Environmental Engineering II Lab	Depth	1
CE4912	Civil Engineering Project I	Design Project	2

### Scheme of Studies B.Sc. in Civil Engineering

#### Semester-VIII (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CE4201	Design of Structures	Depth	1
CE4211	Design of Structures Lab	Depth	1
CE4283	Structural Engineering	Depth	3
CE4452	Irrigation and Drainage Engineering	Depth	2
CE4451	Irrigation and Drainage Engineering Lab	Depth	1
CE4542	Transportation Engineering II	Depth	2
CE4541	Transportation Engineering II Lab	Depth	1
CE4924	Civil Engineering Project II	Design Project	4

# Master of Science in Civil Engineering

### Admission Requirements

- (i) (i) A minimum of 16 years of education leading to BS / BE / B.Sc. in Civil Engineering or equivalent
- (ii) Minimum 2.00/4.00 CGPA or 50% marks
- (iii) Admission Test/HEC Approved Test

### Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- (i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate for the M.Sc. Civil Engineering degree is required to successfully earn 30 Cr. Hrs. as per the following detail:

	Area	Cr. Hrs.
a)	Specialization Courses	18
<i>b)</i>	Elective	06
<i>c)</i>	Thesis/Project/Additional Courses	06
	Total	30

### a) Specialization Courses

### i) Structural Engineering

Course Title	Code	Cr. Hrs.
Advanced Structural Analysis	CE5203	3
Structural Dynamics	CE5213	3
Advanced Concrete Technology	CE5223	3
Theory of Plates and Shells	CE5233	3
Conceptual Design of Bridges	CE5243	3
Design of Timber Structures	CE5253	3
Advanced Reinforce Concrete Design	CE6203	3
Finite Element Methods in Engineering	CE6213	3
Earthquake Engineering	CE6223	3
Pre-stressed Concrete	CE6233	3
Steel Structures	CE6243	3
Design of Glass Structures	CE6253	3
Design for Fire Resistance of Structures	CE6263	3

ii) Hydraulics & Irrigation Engineering

II) Hydradiics & Irrigation Engineeri	rig	
Course Title	Code	Cr. Hrs.
Design of Hydraulic Structures	CE5403	3
Irrigation Engineering and Practices	CE5413	3
Advanced Fluvial Hydraulics	CE5423	3
River Engineering and Flood Management	CE5443	3
Computer Aided Design of Hydraulic Structures	CE5453	3
Application of RS & GIS	CE5463	3
Water Resources Engineering	CE5473	3
Ground Water Engineering	CE5483	3
Statistical Hydrology	CE5493	3
Advanced Open Channel Hydraulics	CE6403	3
Applied Hydrology	CE6413	3
Sediment Transport	CE6423	3
Hydro Power Engineering	CE6433	3
Drainage Engineering	CE6443	3
Climate Change and Water Resources	CE6463	3
Catchment Modeling	CE6473	3
Hydrometeorology	CE6483	3
Integrated Water Resource Management	CE6493	3

III)	Geol	tech	nical	Engi	neering	7
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Course Title	Code	Cr. Hrs.
Advanced Soil Mechanics	CE5503	3
Geotechnical Investigation	CE5513	3
Geotechnical Engineering in Professional Practice	CE5523	3

Advanced Foundation Engineering	CE5533	3
Earth Retaining Structures	CE5543	3
Foundation Engineering	CE6503	3
Dam Engineering	CE6513	3
Soil Improvement Techniques	CE6523	3
Soil Dynamics	CE6533	3
Soil Erosion & Watershed Management	CE6543	3
Rock Engineering	CE6553	3

#### b) Elective Courses

Elective courses (two courses, 6 Cr. Hrs.) can be taken from any specialization with the approval of academic advisor.

#### c) Research Thesis

Course Title	Code	Cr. Hrs.
Research Thesis	CE6916	6
Thesis Continuation	CE6921	1

# CGPA Requirement

A student is required to earn a minimum of 2.50/4.00 CGPA on the completion of his/her degree requirements.

### **Program Duration**

This is nominally a two-year degree program comprising of 4 semesters. There will be a Fall and a Spring semester in each year. The maximum duration to complete MSc Civil Engineering degree is 04 years.







Dr. Fehmida Sultana Dean

Welcome to Faculty of Arts & Social Sciences (FASS) at the University of Central Punjab- Our passion is to provide you with an exceptional environment to pursue your studies in a wide variety of programs. Come and join our large, vibrant and diverse community of scholars, students and professionals to achieve your academic and scholastic goals. Being FASS graduates, you can go onto doing astounding things with your degrees by becoming future teachers, bankers, entrepreneurs, economists, psychologists, human rights activists, civil servants, diplomats, writers, journalists, researchers, media personals and more. With specialized and innovative curricula, skill based training, rich exposure to extracurricular activities; we prepare you for life both in and beyond university.



# **Faculty Members**

#### Dr. Fehmida Sultana

PhD English Literature (Tufts University, Medford, MA, USA) MA English Literature (Tufts University, Medford, MA, USA) MA English Literature (University of the Punjab, Lahore) Professor/Dean-Faculty of Arts & Social Sciences



# Department of English

#### Dr. Baber Sultan Ali Khan

PhD Linguistic (University of Illinois, Urbana Champaign, USA)
MSc Applied Linguistics (University of Edinburgh, Scotland, UK)
Postgraduate Certificate of Teaching in Higher Education (1 & 2)
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Professor/HOD-English



#### Dr. Asim Karim

PhD English Literature (Government College University, Lahore)
Certificate in Teaching English to Young learners (University of Maryland, Baltimore, USA)
M.Phil English Literature (Government College University, Lahore)
MA English Literature (Gomal University, Dera Ismail Khan)
Associate Professor



#### Mr. Zamir Hussain Naqvi

MA Linguistics (TESOL) (University of Newcastle, England)
PGD TEFL (Allama Iqbal Open University, Islamabad)
Postgraduate Certified TEFL (The British Council, University of Leeds, UK)
PGD TEIL (Teaching of English as an International Language), (National Academy of Higher Education, Islamabad)
PGD ELT (Allama Iqbal Open University, Islamabad)
MA English (University of the Punjab, Lahore)
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MA English Literature (University of the Punjab, Lahore) MA Political Science & IR (Bahauddin Zakariya University, Multan) Associate Professor



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PhD American Studies (Toni Morrison), (University of Sussex, UK) MA in Creative & Critical Writing (University of Sussex, UK) Assistant Professor



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M.Phil English (Hazara University, Mansehra) MA ELTL (University of the Punjab, Lahore) MA English (University of the Punjab, Lahore) Assistant Professor



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M.Phil English Literature (Government College University, Lahore) MA English Literature (University of the Punjab, Lahore) Lecturer



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MPhil TESOL (Lahore College for Women University, Lahore) BA (Hons.) Applied Linguistics (Kinnaird College for Women University, Lahore) Lecturer



# Department of Psychology

#### Dr. Shazia Hasan

PhD Clinical Psychology (University of Karachi, Karachi) M.Phil Clinical Psychology (University of Karachi, Karachi) Post-Magisterial Diploma Clinical Psychology (University of Karachi, Karachi) MSc Psychology (University of the Punjab, Lahore) Professor/HOD-Psychology



#### Dr. Ansa Qurat Ul Ain

PhD Clinical Psychology (University Utara Malaysia, Malaysia) MS Applied Psychology (Islamia University, Bahawalpur) Assistant Professor



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PhD Clinical Psychology (University of Karachi, Karachi) MS Clinical Psychology (University of Karachi, Karachi) MSc Clinical Psychology (University of the Punjab, Lahore) Assistant Professor



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PhD Organizational Psychology (Beaconhouse National University, Lahore) M.Phil Psychology (Government College University, Lahore) MSc Applied Psychology (University of the Punjab, Lahore) Assistant Professor



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PhD Clinical Psychology (Government College University, Lahore) MS Clinical Psychology (Government College University, Lahore) MSc Psychology (Lahore College for Women University, Lahore) Assistant Professor



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PhD Psychology (Substance Abuse), (University of Karachi, Karachi) M.Phil Clinical Psychology (University of Karachi, Karachi) MSc Psychology (University of Karachi, Karachi) Assistant Professor



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PMS Clinical Psychology (University of Central Punjab Lahore) MSc Psychology (Government College University, Lahore) Assistant Professor



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Masters in Educational Psychology (International Islamic University, Malaysia) MSc Organizational Psychology (Quaid-e-Azam University, Islamabad) Software Engineering Diploma (Mid Kent College, UK) Lecturer



#### Ms. Syeda Ayesha Sheeraz

MS Clinical & Counseling Psychology, (Beaconhouse National University, Lahore) MSc Clinical Psychology (Beaconhouse National University, Lahore) Lecturer



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#### Ms. Zasheer Aman

MS Clinical & Counseling Psychology (Beaconhouse National University, Lahore) BS Home Economics (Government College of Home Economics, Lahore) Lecturer



#### Ms. Maria Mufti

MS Psychology (University of Central Punjab, Lahore) BS Islamic Studies & Psychology, (University of Central Punjab, Lahore) Lecturer



#### Mr. Hamid Bilal

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# Department of Economics

# Dr. Kashif Munir

PhD Economics (Pakistan Institute of Development Economics, Islamabad) MA Economics (University of the Punjab, Lahore) Associate Professor/HOD-Economics



#### Dr. Arslan Tariq Rana

PhD Economics (University of Orl eans, Orl eans, France) MS Finance & Economics (University of Orl eans, Orl eans, France) Masters' in Business & Information Technology (University of the Punjab, Lahore) BCS (University of Lahore, Lahore) Assistant Professor



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MSc Finance & Economics (University of Edinburgh, UK) BSc (Hons.) Finance & Economics (Lahore School of Economics, Lahore) Lecturer



Ms. Nimra Riaz

M.Phil Economics (University of Central Punjab, Lahore) BS (Hons.) Economics (Lahore College for Women University, Lahore) Lecturer



# Department of Politics & IR

#### Dr. Rashid Ahmad Khan

PhD Political Science (University of the Punjab, Lahore) MA Political Science (University of the Punjab, Lahore) BA (Hons.) History & Political Science (University of the Punjab, Lahore) Professor/HOD-Politics & IR



#### Dr. Waheed Ahmad Khan

PhD Political Science (Purdue University Indiana, USA) M.Phil American Studies (Quaid-e-Azam University, Islamabad) MSc International Relations (Quaid-e-Azam University, Islamabad) Associate Professor





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PhD Politics & International Relations (International Islamic University, Islamabad)
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# **Introduction of FASS**

Faculty of Arts & Social Sciences (FASS) was established in 2009. FASS not only teaches degree programs at undergraduate and graduate level in Arts and Social Sciences, but also provides support across faculties in teaching language and Social Science courses.

A conscious effort is made to develop curriculum, taught in various programs, contemporary and at the same time challenging in order to foster a spirit of critical inquiry, an urge to discover, learn and reflect on issues facing humanity perennially. Although study of liberal arts and social sciences has been given a lot of importance in higher education all over the world,

but students in Pakistan are usually confused about earning a degree in arts and social sciences subjects. They think that a degree in social sciences hampers their job prospects and does not develop skills and attitudes needed for success in professional paths they choose in their lives. To dispel such misconceptions, we have devised curriculum which is contemporary in course selection and learning environment which is interactive and robust. This ensures that students acquire well developed communication and interpretive skills, a habit for independent thinking, and a sense of personal and professional responsibility which employers seek in candidates in

today's job market.

Faculty of Arts and Social Sciences currently has four departments, Department of Psychology, Department of Economics, Department of English and Department of Politics & International Relations. All departments offer BS (Honors) and MS degrees in their respective subjects. A number of majors and minors are offered to cater the diverse interests and professional ambitions of students. Students are allowed to choose courses and devise combinations of majors and minors which are most relevant to them, while still enjoying a degree which falls under HEC guidelines.



**Dr. Baber Sultan Ali Khan** HoD (Department of English)

# Department of English HoD's Message

Department of English is a major component of the Faculty of Arts and Social Sciences in University of Central Punjab. The department offers three academic programs with a vision to provide enlightening and transformative learning opportunities to students from undergraduate to postgraduate level. The offered degree programs consist of BS English Language & Literature, MS Applied Linguistics and MS English Literature. The combination of linguistics and literature adds diversity to our programs. It enables the graduates to learn contemporary trends and innovations in language, linguistics and literary field. A highly qualified, experienced and competent team of educationists looks into the academic needs of the learners and implements these programs in a very professional manner. Major feature of these programs is to focus on developing critical thinking and research skills of students. Furthermore, these programs are designed to meet the demands of current job market.

# BS English Language and Literature

### **Admission Requirements**

- (i) Intermediate (FA/F.Sc) or equivalent securing at least 45% marks in aggregate.
- (ii) UCP admission test or HEC approved test.

### Degree Requirements

Each candidate of BS degree is required to complete 138 Cr. Hrs. with the CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Foundational Requirements	15
b)	Compulsory Requirements	06
c)	Compulsory General Requirements	09
d)	General Requirements	18
e)	Subject-specific Foundational	12
f)	Subject-specific Requirements	78
f)	Community Service	00
	Total	138

### a) Foundational Requirements (15 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
English Reading and Writing Skills (English-I)	EL1103	3
Advanced English Writing (English-II)	EL1113	3
Introduction to Information & Computer Technology Skills	ELCS1013	3
Communication Skills (English-III)	ELCS1013	3
Academic Reading & Writing (English-IV)	EL2133	3

#### b) Compulsory Requirements (06 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Pakistan Studies	ELHU1013	3
Islamic Studies	ELHU1023	3

# c) Compulsory General Requirements (09 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Study Skills	EL1143	3
Introduction to Sociology	ELHU2033	3
Foreign Language	EL3413	3



#### d) General Requirements (18 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Anthropology	ELHU1043	3
Introduction to Philosophy	ELHU1053	3
Introduction to Psychology	ELHU1063	3
Introduction to Mass Communication	EL2313	3
Global Poetry	EL2713	3
Introduction to International Relations	ELHU3073	3

# e) Subject-specific Foundational Requirements (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Literary Studies	EL1613	3
Introduction to Language Studies	EL1423	3
Introduction to Phonetics & Phonology	EL1433	3
Lit Forms and Movements	EL1623	3

# f) Subject-specific Requirements (78 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Short Story	EL2723	3
Introduction to Morphology	EL2623	3
Classical and Renaissance Drama	EL2733	3
Classical Poetry	EL2743	3
Semantics	EL2453	3
Rise of the Novel (18th to 19th Century)	EL2753	3
Romantic and Victorian Poetry	EL3763	3
Foundations of Literary Theory & Criticism	EL3633	3

Course Title	Code	Cr. Hrs.
Forensic Linguistics	EL3463	3
Modern Poetry	EL3773	3
Modern Drama	EL3783	3
Modern Novel	EL3793	3
Grammar & Syntax	EL3473	3
Discourse Studies	EL3153	3
Creative Nonfiction	EL3163	3
Research Methods and Term Paper Writing	EL4173	3
Applied Linguistics	EL4483	3
Stylistics	EL4183	3
Literary Theory and Practice	EL4643	3
Pakistani Literature in English	EL4653	3
Postcolonial Literature	EL4663	3
American Literature	EL4673	3
Translation Studies	EL4493	3
Women's Writing	EL4193	3
World Englishes	EL4403	3
Sociolinguistics	EL3403	3

#### g) Community Service (EL3000)

Each student is required to complete 65 hours Volunteers in Services, usually after 4th semester which would be a prerequisite for the award of degree.

# **Program Duration**

This is a four year degree program comprising of 8 semesters. There is a Fall and a Spring semester in each year. The summer semester is utilized for deficiency or improvement courses. The maximum duration to complete the BS English Language & Literature program is 7 years.

# Scheme of Studies BS English Language & Literature

#### Semester-I (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EL1143	Study Skills	Compulsory General	3
ELHU1043	Introduction to Anthropology	General	3
ELHU1013	Pakistan Studies	Compulsory	3
EL1103	English-I: Reading and Writing Skills	Foundational	3
EL1613	Introduction to Literary Studies	Subject-specific Foundational	3
EL1423	Introduction to Language Studies	Subject-specific Foundational	3

#### Semester-II (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
ELHU1023	Islamic Studies	Compulsory	3
ELHU1053	Introduction to Philoshophy	General	3
ELHU1063	Introduction to Psychology	General	3
ELL1113	English-II: Advanced English Writing	Foundational	3
EL1433	Introduction to Phonetics & Phonology	Subject-specific Foundational	3
EL1623	Lit Forms and Movements	Subject-specific Foundational	3

#### Semester-III (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EL2313	Introduction to Mass Communications	General	3
EL2713	Global Poetry	General	3
EL2123	English-III: Communication Skills	Foundational	3
EL2723	Short Story	Subject-specific	3
EL2623	Introduction to Morphology	Subject-specific	3
ELCS1013	Introduction to Information & Computer Technology (ICT) Skills	Foundational	3

#### Semester-IV (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
ELHU2033	Introduction to Sociology	Compulsory General	3
EL2133	English-IV: Academic Reading & Writing	Foundational	3
EL2733	Classical and Renaissance Drama	Subject-specific	3
EL2743	Classical Poetry	Subject-specific	3
EL2453	Semantics	Subject-specific	3
EL2753	Rise of the Novel (18th to 19th Century)	Subject-specific	3

# Scheme of Studies BS English Language & Literature

### Semester-V (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
ELHU3073	Introduction to International Relations	General	3
EL3413	Foreign Language	Compulsory General	3
EL3763	Romantic and Victorian Poetry	Subject-specific	3
EL3633	Foundations of Literary Theory & Criticism	Subject-specific	3
EL3403	Sociolinguistics	Subject-specific	3
EL3463	Forensic Linguistics	Subject-specific	3

#### Semester-VI (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EL3773	Modern Poetry	Subject-specific	3
EL3783	Modern Drama	Subject-specific	3
EL3793	Modern Novel	Subject-specific	3
EL3473	Grammar & Syntax	Subject-specific	3
EL3153	Discourse Studies	Subject-specific	3
EL3163	Creative Nonfiction	Subject-specific	3

#### Semester-VII (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
<i>EL (</i> 172	December Mathematic C. Taure December Muiting	Cubiast apailis	7
EL4173	Research Methods & Term Paper Writing	Subject-specific	3
EL4483	Applied Linguistics	Subject-specific	3
EL4183	Stylistics	Subject-specific	3
EL4643	Literary Theory and Practice	Subject-specific	3
EL4653	Pakistani Literature in English	Subject-specific	3

#### Semester-VIII (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EL4663	Postcolonial Literature	Subject-specific	3
EL4673	American Literature	Subject-specific	3
EL4493	Translation Studies	Subject-specific	3
EL4193	Women's Writing	Subject-specific	3
EL4403	World Englishes	Subject-specific	3

# MS Applied Linguistics

### Admission Requirements

- (i) A minimum of 16 years of education leading to MA English, BS English (Honors), BA (Honors) with Major in English or equivalent
- (ii) Minimum 2.00/4.00 CGPA or 50% marks from an annual system
- (iii) Admission Test/HEC Approved Test.

#### Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- (i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate for the MS Applied Linguistics degree is required to successfully earn 30 Cr. Hrs. as per the following detail:

	Area		Cr. Hrs.
a)	Core Courses		06
<i>b)</i>	Elective		18
c)	Thesis/Project/Additional Courses		06
		Total	30

#### a) Core Courses

Course Title	Code	Cr. Hrs.
Research Methodology in Linguistics	EL5403	3
Linguistic Theories	EL5413	3

#### b) Elective Courses

Course Title	Code	Cr. Hrs.
Contemporary Issues in Applied Linguistics	EL5423	3
Applied Grammar and Syntax	EL5433	3
Applied Grammar & Syntax	EL5443	3
Discourse Studies	EL5103	3
Language Power and Identity	EL5453	3
Translation Studies	EL5463	3
Latest Trends in Linguistics	EL5473	3

Narratology	EL5113	3
Applied Linguistics	EL5483	3
Corpus Linguistics	EL6403	3
Language and Technology	EL6413	3
Psycho-Neurolinguistics	EL6423	3
Advanced Stylistics	EL6433	3
Anthropological Linguistics	EL6443	3
Systemic Functional Linguistics	EL6453	3
Critical Discourse Analysis	EL6463	3
Bilingualism	EL6473	3
Genre Analysis	EL6483	3
Issues in Syntax	EL6493	3
Multilingualism	EL7403	3
Teaching and Learning English in Large Classes	EL7413	3
Cross-Cultural Communication	EL7423	3
Theoretical Phonology	EL7433	3
Phonetics	EL7443	3
Language Program Management	EL7453	3
Morphology & its Theoretical Foundations	EL7463	3
Neuro-linguistics	EL7473	3
Cognitive Linguistics	EL7483	3
Sociolinguistics	EL7493	3
World Englishes	EL8413	3
Linguistics Human Rights	EL8423	3

#### c) Research Thesis

Course Title	Code	Cr. Hrs.
Research Thesis	EL6916	6
Thesis Continuation	EL6921	1

### CGPA Requirement

A student is required to earn a minimum of 2.50/4.00 CGPA on the completion of his/her degree requirements.

# **Program Duration**

This is nominally a two-year degree program comprising of 4 semesters. There will be a Fall and a Spring semester in each year. The maximum duration to complete MS Applied Linguistics degree is 04 years.

# MS English Literature

### Admission Requirements

- (i) A minimum of 16 years of education leading to MA English, BS English (Honors), BA (Honors) with Major in English or equivalent
- (ii) Minimum 2.00/4.00 CGPA or 50% marks from an annual system
- (iii) Admission Test/HEC Approved Test.

### Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- (i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate for the MS English Literature degree is required to successfully earn 30 Cr. Hrs. as per the following detail:

	Area		Cr. Hrs.
a)	Core Courses		09
b)	Elective		15
c)	Thesis/Project/Additional Courses		06
		Total	30

#### a) Core Courses

Course Title	Code	Cr. Hrs.
Advanced Literary-Cultural Research Methodology	EL5613	3
Critical Theories	EL5623	3
Pakistani Writings in English	EL5103	3

#### b) Elective Courses

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Course Title	Code	Cr. Hrs.
Shakespearean Studies	EL5703	3
Postmodern American Literature	EL5633	3
World Literature & Translation	EL5643	3
South Asian Literature	EL5653	3
Diasporic Literatures	EL5663	3
Contemporary Postcolonial Studies	EL5673	3
War Literature	EL5683	3
Literature and Globalization	EL5693	3
Literature and Environment	EL6603	3
Literature and Film	EL6613	3
Women's Writings	EL6623	3
Postmodern Fiction	EL6633	3
Transnational Poetry	EL6713	3
Digital Humanities	EL6503	3

#### c) Research Thesis

Course Title	Code	Cr. Hrs.
Research Thesis	EL6916	6
Thesis Continuation	EL6921	1

# CGPA Requirement

A student is required to earn a minimum of 2.50/4.00 CGPA on the completion of his/her degree requirements.

# **Program Duration**

This is nominally a two-year degree program comprising of 4 semesters. There will be a Fall and a Spring semester in each year. The maximum duration to complete MS English Literature degree is 04 years.



**Dr. Shazia Hasan** HoD (Department of Psychology)

# Department of Psychology HoD's Message

Psychology is basically recognized as one of the most important disciplines not only in the fields of business, management and economic decision making, but also among the entire body of Social Sciences. National education data shows that psychology is among the most popular disciplines in Pakistan and a large number of students seek opportunities for post- graduate education in this subject. The Psychology Department at UCP has been established to cater the needs of this segment of students striving to make a career in the field of psychology in academia or in industry. This year the department plans to launch several psychology-based training programs for people in industry, business and management to help in improving their performance and career prospects, specifically for HR Specialists and business managers.



# BS Psychology

#### Admission Requirements

- (i) Intermediate (FA/F.Sc) or equivalent securing at least 45% marks in aggregate.
- (ii) UCP admission test or HEC approved test.

#### Degree Requirements

Each candidate of BS Psychology degree is required to complete 133 Cr. Hrs. with the CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Compulsory Requirements	24
b)	General Courses	21
c)	Foundation Courses	33
d)	Major Courses	35
e)	Electives	12
f)	Internship	02
g)	Research Project	06
	Total	l 133

### a) Compulsory Requirements (24 Cr. Hrs.)

	•	
Course Title	Code	Cr. Hrs.
English Basic Writing Skill	PYHU1003	3
Islamic and Arabic studies	PYHU1023	3
Introduction to Information Technology	PYCS1013	3
English Advanced Writing	PYHU1033	3
Pakistan Studies	PYHU1053	3
Presentation Techniques	PYHU2063	3
Foreign Language	PYHU2083	3
Statistics	PYMT2013	3

#### b) General Courses (21 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Anthropology	PYHU1013	3
Introduction to Political Sciences	PYHU1043	3
Introduction to Biology	PYBI1013	3
Introduction to Philosophy	PYHU2073	3
Introduction to Sociology	PYHU2093	3

Introduction to Media Communication	PYHU2003	3
Human Resource Management	PYMG2013	3

#### c) Foundation Courses (35 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Psychology	PY1014	4
History and Schools of Psychology	PY1303	3
Experimental Psychology	PY2204	4
Social Psychology	PY2703	3
Theories of Personality I	PY2603	3
Theories of Personality II	PY3613	3
Developmental Psychology	PY2213	3
Mental Health and Psychopathology I	PY3403	3
Mental Health and Psychopathology II	PY3413	3
Neurological Basis of Behavior	PY4423	3
Ethics in Psychology	PY3713	3

#### d) Major Courses (33 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Psychological Assessment I	PY4223	3
Psychological Assessment II	PY4233	3
Quantitative Research Methods	PY3023	3
Qualitative Research Method	PY3033	3
Positive Psychology	PY3723	3
Cognitive Psychology	PY3103	3
Cross Cultural Psychology	PY4243	3
Applied Statistics	PYMT4023	3
Organizational Psychology	PY4503	3
Technical Writing in Psychology	PY4043	3
Muslim Psychology	PY3733	3



#### e) Elective Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Industrial/Organizational Psychology	PYx513	3
Entrepreneurship in Psychology	PYMGx023	3
Health Psychology	PYx433	3
Community Psychology	PYx743	3
Counseling and Guidance	PYx313	3
Consumer Behavior	PYMGx033	3
Clinical Psychology	PYx363	3
Special Education	PYx323	3
Gender Psychology	<i>PYx264</i>	3
Behavioral Psychology	PYx623	3
Behavioral Therapy	PYx633	3
Forensic Psychology	PYx443	3
School Psychology	PYx333	3
Islamic Perspective of Psychotherapy	PYx753	3
Religion and Psychology	PYx763	3

#### f) Internship (PY4002)

Each student is required to complete an 8-week clinical internship training usually after 6 semesters or on the completion of 90 Cr. Hrs. The internship shall be graded as per the normal grading scheme of the University.

#### Research Project (06 Cr. Hrs.)

After the completion of 90 Cr. Hrs., the students are required to demonstrate their skills in the field of Psychology by completing a research project worth 6 Cr. Hrs. The research project shall be completed in two parts as given below:

Course Title	Code	Cr. Hrs.
Research Project I	PY4913	3
Research Project II	PY4923	3

# Community Service (PY3000)

Each student is required to complete 65 hours community work, usually after 4th semester which would be a prerequisite for the award of degree.

# **Program Duration**

This is a four-year degree program comprising of 8 semesters. There is a Fall and a Spring semester in each year. The summer semester is utilized for deficiency or improvement courses. The maximum duration to complete the BS Psychology program is 7 years.

# Scheme of Studies BS Psychology

#### Semester-I (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PYHU1003	English-Basic Writing Skills	Compulsory	3
PY1014	Introduction to Psychology	Foundation Core	4
PYHU1013	Introduction to Anthropology	General Course	3
PYHU1023	Islamic and Arabic Studies	Compulsory	3
PYCS1013	Introduction to Information Technology	Compulsory	3

#### Semester-II (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PYHU1033	English Advance Writing	Compulsory	3
PY1303	History and Schools of Psychology	Foundation Core	3
PYHU1043	Introduction to Political Sciences	General	3
PYHU1053	Pakistan Studies	Compulsory	3
PYBI1013	Introduction to Biology	General	3

#### Semester-III (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PYHU2063	Presentation Techniques	Compulsory	3
PYHU2073	Introduction to Philosophy	General	3
PY2204	Experimental Psychology	Foundation Core	4
PYHU2083	Foreign Language	Compulsory	3
PYHU2093	Introduction to Sociology	General	3

#### Semester-IV (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PYMT2013	Statistics	Compulsory	3
PYHU2003	Introduction to Media Communication	General	3
PY2703	Social Psychology	Foundation Core	3
PY2213	Developmental Psychology	Foundation Core	3
PYMG2013	Human Resource Management	General	3
PY2603	Theories of Personality I	Foundation Core	3

# Scheme of Studies BS Psychology

#### Semester-V (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PY3733	Muslim Psychology	Major	3
PY3613	Theories of Personality II	Foundation Core	3
PY3403	Mental Health and Psychopathology I	Foundation Core	3
PY3723	Positive Psychology	Major	3
PY3023	Quantitative Research Methods	Major	3

#### Semester-VI (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PY3413	Mental Health and Psychopathology II	Foundation Core	3
PY3033	Qualitative Research Methods	Major	3
PY3103	Cognitive Psychology	Major	3
PY3713	Ethics in Psychology	Major	3
РҮЗххЗ	Electives I	Elective	3

#### Semester-VI (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PYMT4023	Applied Statistics	Foundation Core	3
PY4223	Psychological Assessment I	Major	3
PY4043	Technical Writing in Psychology	Major	3
PY4423	Neurological Basis of Behavior	Foundation Core	3
PY4xx3	Elective II	Elective	3
PY4913	Research Project I	Research Project	3

#### Semester-VIII (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PY4243	Cross Cultural Psychology	Major	3
PY4233	Psychological Assessment II	Major	3
PY4503	Organizational Psychology	Major	3
PY4xx3	Elective III	Elective	3
PY4xx3	Elective IV	Elective	3
PY4923	Research Project II	Research Project	3

# MS Clinical Psychology

# Admission Requirements

- (i) A minimum of 16 years of education leading to BS Psychology or equivalent
- (ii) Minimum 2.00/4.00 CGPA or 50% marks from an annual system
- (iii) Admission Test/HEC Approved Test.

### Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- (i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis and 9 Cr. Hrs Clinical Placement
- (ii) 30 Cr. Hrs course work with 9 Cr. Hrs Clinical Placement Each candidate for the MS Clinical Psychology degree is required to successfully earn 39 Cr. Hrs. as per the following detail:

	Area		Cr. Hrs.
a)	Specialization Courses		24
b)	Thesis/Additional Courses		06
c)	Clinical Placement		09
		Total	39

#### a) Specialization Courses

Course Title	Code	Cr. Hrs.
Psycho-diagnosis & Assessment I	PY5403	3
Psychotherapy I	PY5413	3
Psychopharmacology	PY5423	3
Ethical and Legal Issues	PY5703	3
Psychodiagnosis & Assessment II	PY5433	3
Psychotherapy II	PY5453	3
Advanced Research Methods in Psychology	PY6013	3
Clinical Placement I	PY6463	3
Clinical Placement II	PY6473	3
Neuropsychology	PY6483	3
Statistics	PYMT6013	3
Clinical Placement III	PY6493	3

#### b) Research Thesis

Course Title	Code	Cr. Hrs.
Research Thesis	PY6916	6
Thesis Continuation	PY6921	1

# CGPA Requirement

A student is required to earn a minimum of 2.50/4.00 CGPA on the completion of his/her degree requirements.

### **Program Duration**

This is nominally a two-year degree program comprising of 4 semesters. There will be a Fall and a Spring semester in each year. The maximum duration to complete MS Clinical Psychology degree is 04 years.



# PhD Psychology

Psychology department at UCP is constantly striving to set higher standards of education by providing an inspirational and resourceful environment to students. After successful launch of BS and MS Psychology, the department started PhD program in Psychology, which prepares students in teaching, research, and practice in various domains of Psychology. After completing their PhD, students will be ready to work in a variety of professional settings e.g. hospitals, prisons, schools, colleges, universities and research institutes.

#### 5.1 Admission Requirements

- (i) M.Sc. degree in relevant discipline
- (ii) Minimum CGPA 3.00/4.00 (Semester System) or 60% marks (Annual System)
- (iii) Admission Test/HEC Approved Test
- Interview (iv)

#### 5.2 Degree Requirements

A PhD candidate shall be awarded degree on successful completion of the following requirements:

- 18 Cr. Hrs. Course Work with minimum CGPA 3.00/4.00
- (ii) Comprehensive Examination (written and oral)
- (iii) Synopsis Defense
- (iv) 30 Cr. Hrs. Research Work
- (v) Publication of at least one research paper in HEC approved journal
- (vi) Dissertation Foreign Reviews
- (vii) Dissertation Final Defense

Note: PhD scholars are required to comply with the following timeline:

Activity	Preferred Time	Maximum
Course Work	2 Semesters	3 Semesters
Comprehensive Exam	3 Semesters	4 Semesters
Synopsis Qualification	4 Semesters	6 Semesters
Thesis Submission	6 Semesters	14 Semesters (7 Years)





*Dr. Kashif Munir*HoD
(Department of Economics)

# Department of Economics HoD's Message

The critical role of the subject of Economics and the economists in identifying and suggesting remedial measures for multiple problems hindering the socio- economic growth of a society is well recognized not only in Pakistan but also all over the world.

At its present stage of development, Pakistan is facing multiple constraints on the way of economic growth due to a lack of professionals having command over knowledge and its application in various areas of development, policy making, implementation and evaluation. Even teaching, research and normal operations of the various institutions in the public and private sectors suffer due to inadequacy of trained human resource. To fill this gap, we have taken the initiative to train the students with the cutting edge knowledge in economics through undergraduate and graduate studies in economics. These students on graduation will be ready to take jobs in the public and private sector and also can start their own businesses and consultancies in their areas of specialization.

Initially the department of Economics was established for teaching the subjects of Microeconomics, Macroeconomics, Economic Analysis and Managerial Economics to support the BBA and MBA programs of Faculty of Management Studies. In pursuance of our long-term vision, BS Economics and Finance program was launched in Fall 2011 by FASS. A separate and independent Economics Department was established to offer various degrees in the said subjects. To further strengthen the BS Economics program, the department was reoriented to offer specializations in Development and Business Economics with the objective to prepare students to work in public and private sectors, specifically, banking and development sectors in the country and abroad. The MS Program was started in Fall 2013 to be followed by PhD in later semesters. So far, seven MS students have successfully completed their degrees and other seven students of are working on their thesis. Thesis of MS students are evaluated by the experts in the respective fields and quality of the research work is ensured rigorously.



# **BS Economics**

### Admission Requirements

(i) (i) Intermediate (FA/F.Sc) or equivalent securing at least 45% marks in aggregate.

UCP admission test or HEC approved test.

# Degree Requirements

Each candidate of BS economics is required to complete 130 Cr. Hrs. with the CGPA of 2.0 on the scale of 4.0 as per the following detail:

Area		Cr. Hrs.
a) Compulsory Requiremen	nts	27
b) General Requirements		21
c) Foundation Courses		27
d) Major Courses		25
e) Elective Courses		27
f) Community Service		00
g) Project/Additional Cour	5 <i>e</i>	03
	Total	130

### a) Compulsory Requirements (27 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
English I	ECEL1003	3
English II	ECEL1013	3
English III	ECEL2023	3
Mathematics I	ECMT1003	3
Introduction to Computer	ECCS1003	3
Statistics I	ECMT1023	3
Islamic Studies	ECHU2013	3
Pakistan Studies	ECHU2023	3
Research Methods	ECHU4063	3

# b) General Requirements (21 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Management	ECMG1003	3
Introduction to Sociology	ECHU1033	3
Business Administration	ECMG2013	3
Entrepreneurship	ECMG2023	3
Mercantile Law	ECLW2013	3
Geography	ECHU1043	3
Introduction to Philosophy	ECHU2053	3



# c) Foundation Courses (27 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Microeconomics I	EC1103	3
Mathematical Economics	EC1503	3
Macroeconomics I	EC1203	3
Microeconomic II	EC2113	3
Statistics II	ECMT2033	3
Macroeconomic II	EC2213	3
World Economic History	EC2123	3
Islamic Economics	EC2403	3
Development Economics	EC3803	3

# d) Major Courses (25 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Econometrics I	EC3303	3
Econometrics II	EC3314	4
International Economics	EC3133	3
Issues in Pak Economy	EC3223	3
WTO, Globalization & Econ. Integration	EC3143	3
Monetary Economics	EC3153	3
Introduction to Game Theory	EC3163	3
Public Sector Economics	EC4173	3

### e) Elective Courses (27 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Elective I	ECXX3xx3	3
Elective II	ECXX3xx3	3
Elective III	ECXX4xx3	3
Elective IV	ECXX4xx3	3
Elective V	ECXX4xx3	3
Elective VI	ECXX4xx3	3
Elective VII	ECXX4xx3	3
Elective VIII	ECXX4xx3	3
Elective IX	ECXX4xx3	3
Elective X/Research Project	ECXX4xx3	3

# List of Elective Courses

Course Title	Code	Cr. Hrs.
Project Plaining and Appraisal	ECFNx013	3
Investment Analysis	ECFNx023	3
Business Ethics	ECMGx033	3
Managerial Economics	ECx183	3
Human Resource Economics	ECx233	3
Project Management	ECMGx043	3
Islamic Banking and Finance	ECFNx033	3
Introduction to Finance	ECFNx043	3
Financial Accounting	ECFNx053	3



Course Title	Code	Cr. Hrs.
Fundamentals of Management & Organization	ECMGx053	3
Financial Management	ECFNx063	3
Business Analysis	ECMGx063	3
Human Resource Management	ECMGx073	3
Fundamentals of Marketing	ECMKx013	3
Supply Chain Management	ECMGx083	3
Agricultural Management	ECMGx093	3
Environmental Economics	ECx603	3
Health Economics	ECx703	3
Population Economics	ECx713	3
Rural Development	ECx813	3
Urban Economics	ECx823	3
Industrial Economics	ECx833	3
Regional Economics	ECx843	3
Poverty & Income Distribution	ECx243	3
Economic Growth	ECx853	3
Development Policy	ECLWx023	3
Public Policy	ECLWx033	3
Labour Economics	ECx863	3
Production Economics	ECx873	3
Economic Geography	ECx883	3
Agricultural Management & Policy	ECMGx003	3
Monitoring & Evaluation	ECx893	3

#### f) Community Service (EC3000)

Each student is required to complete 65 hours volunteers in service usually after 4th semester which would be a prerequisite for the award of degree.

### g) Project (03 Cr. Hrs.)

It is optional for student either to complete a research project in 8th semester or to study one elective course.

Course Title	Code	Cr. Hrs.
Research Project	EC4913	3

# **Program Duration**

This is a four year degree program comprising of 8 semesters. There is a Fall semester in each year. The maximum duration to complete the BS Economics program is 7 years.



# Scheme of Studies BS Economics

#### Semester-I (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
ECEL1003	English I	Compulsory	3
EC1103	Microeconomics I	Foundation	3
ECMT1003	Mathematics I	Compulsory	3
ECCS1003	Introduction to Computer	Compulsory	3
ECHU1033	Introduction to Sociology	General	3

#### Semester-II (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
ECEL1013	English II	Compulsory	3
EC1503	Mathematical Economics	Foundation	3
EC1203	Macroeconomics I	Foundation	3
ECMT1023	Statistics I	Compulsory	3
ECMG1003	Introduction to Management	General	3
ECHU1043	Geography	General	3

#### Semester-III (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
ECEL2023	English III	Compulsory	3
ECMT2033	Statistics II	Foundation	3
EC2113	Microeconomics II	Foundation	3
ECHU2013	Islamic Studies	Compulsory	3
ECMG2013	Business Administration	General	3
ECLW2013	Mercantile Law	General	3

#### Semester-IV (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EC2213	Macroeconomics II	Foundation	3
ECHU2023	Pakistan Studies	Compulsory	3
ECHU2053	Introduction to Philosophy	General	3
EC2123	World Economic History	Foundation	3
ECMG2023	Entrepreneurship	General	3
EC2403	Islamic Economics	Foundation	3

# Scheme of Studies BS Economics

#### Semester-V (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EC3303	Econometric I	Major	3
EC3133	International Economics	Major	3
EC3803	Development Economics	Foundation	3
EC3223	Issues in Pak Economics	Major	3
EC3143	WTO, Globalization & Econ. Integeration	Major	3

#### Semester-VI (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EC3314	Econometric II	Major	4
EC3153	Monetary Economics	Major	3
EC3163	Introduction to Game Theory	Major	3
ECXX3xx3	Elective I	Elective	3
ECXX3xx3	Elective II	Elective	3

#### Semester-VII (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
EC4173	Public Sector Economics	Major	3
ECHU4063	Research Methods	Compulsory	3
ECXX4xx3	Elective III	Elective	3
ECXX4xx3	Elective IV	Elective	3
ECXX4xx3	Elective V	Elective	3

#### Semester-VIII (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
ECXX4xx3	Elective VI	Elective	3
ECXX4xx3	Elective VII	Elective	3
ECXX4xx3	Elective VIII	Elective	3
ECXX4xx3	Elective IX	Elective	3
ECXX4xx3	Elective X/Project	Elective/Project	3

# MS Economics

### Admission Requirements

- (i) A minimum of 16 years of education leading to BS Economics or equivalent
- (ii) Minimum 2.00/4.00 CGPA or 50% marks from an annual system
- (iii) Admission Test/HEC Approved Test.

# Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- (i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate for the MS Economics degree is required to successfully earn 30 Cr. Hrs. as per the following detail:

	Area		Cr. Hrs.
a)	Core Courses		15
<i>b)</i>	Elective Courses		09
c)	Thesis/Project/Additional Courses		06
		Total	30

### a) Core Courses

Course Title	Code	Cr. Hrs.
Advanced Microeconomics	EC5103	3
Advanced Macroeconomics	EC5203	3
Leading Issues in Pakistan's Economy	EC5213	3
Advanced Econometrics	EC5303	3
Research Methods in Economics	EC5013	3
b) Elective Courses		
Course Title	Code	Cr. Hrs.
Economics of Poverty	EC5113	3
Topics in Agriculture Economics	EC5123	3
Applied Economics	EC5133	3
Topics in Microeconomics	EC5143	3
Topics in Macroeconomics	EC5223	3
Public Economics	EC5153	3
Financial Economics	EC5163	3
Transport Economics	EC5173	3
Energy Economics	EC5183	3
Behavioral Economics	EC5193	3
Economics of Regulations	EC5233	3



Course Title	Code	Cr. Hrs.
Agriculture Economics and Management	EC5243	3
Economics of Governance	EC6203	3
International Trade and Finance	EC6103	3
Topics in Development Economics	EC6213	3
Monetary Theory and Policy	EC6113	3
Globalization & Economic Integration	EC6123	3
History of Economic Thought	EC6313	3
Health Economics	EC6133	3
Industrial Economics	EC6143	3
Economics of Business and Finance	EC6223	3
Environmental Economics	EC6153	3
Topics in Labour Economics	EC6163	3
Population Dynamics and Migration	EC6323	3
Topics in Urban Economics	EC6233	3
Islamic Economics: Theory and Policy	EC6403	3
Game Theory	EC6173	3

Course Title	Code	Cr. Hrs.
Shariah Compliant Banking and Finance	EC6183	3
Time Series Econometrics	EC6333	3
Advanced Mathematical Economics	EC6503	3
Advanced Statistical Economics	EC6513	3
Financial Econometrics	EC6343	3
Topics in Experimental Economics	EC6193	3

#### b) Elective Courses

Course Title	Code	Cr. Hrs.
Research Thesis	EC6916	6
Thesis Continuation	EC6921	1

# CGPA Requirement

A student is required to earn a minimum of 2.50/4.00 CGPA on the completion of his/her degree requirements.

# **Program Duration**

This is nominally a two-year degree program comprising of 4 semesters. There will be a Fall and a Spring semester in each year. The maximum duration to complete MS Economics degree is 04 years.







HoD

# Department of Politics & International Relations HoD's Message

The Department of Politics and International Relations is an emerging discipline of the Faculty of Arts and Social Sciences at the University of Central Punjab (UCP). It offers undergraduate and graduate programs in multiple specialties of Political Science and International Relations. Living to its traditions, the UCP hires highly qualified and experienced faculty with the aim to attract bright scholars and students and to deliver quality education. The Department is designed to furnish stimulating academic environment for scholars and students in their pursuit of learning. Its goals are to facilitate students to enhance their knowledge, achieve academic excellence and pursue their educational & professional dreams. The UCP has developed institutional linkages that facilitate to open up wide vista of opportunities for the graduating

students and Alumni. Objectives

Undergraduate program aims to prepare students having deep knowledge of the subject as well as the ability to analyse any given situation and draw out conclusions. It is designed by keeping in view the following objectives.

- The graduates passed under this program should have a sound and broad knowledge of the subjects. For this purpose, an intensive and extensive program spread over 4-Year BS in International Relation is designed.
- 2. The program would familiarize students with emerging trends in the disciplines of Political Science and International Relations.
- Along with the knowledge of the subject, students should also have

- a broader view of other disciplines of social as well as physical sciences. It will enable the students to interact with other branches of knowledge and strengthen their understanding of states and societies of the Globe.
- The graduates are to be equipped with essential tools and techniques of research to enable them to analyse emerging situations and issues. They are prepared to comprehend multifaceted issues of the contemporary domestic, world politics and foreign policy issues.
- The graduates of the UCP would be equipped to establish and develop a viable and forceful link between theory, concepts and practices in the field.



### Admission Requirements

Intermediate (FA/F.Sc) or equivalent securing at least 45% marks in aggregate.

UCP Admission Test or HEC approved test.

#### Degree Requirements

Each candidate of BS IR is required to complete 132 Cr. Hrs. with the CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area		Cr. Hrs.
a)	Compulsory Courses		27
<i>b)</i>	Interdisciplinary Courses		27
c)	Discipline Specific Courses		33
d)	Major Courses		33
e)	Elective Courses		12
f)	Community Service		00
		Total	132

#### a) Compulsory Courses (27 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
English I	IREL 1003	3
English II	IREL1013	3
English III	IREL2023	3
English IV	IREL2033	3
Pakistan Studies	IRHU1003	3

Course Title	Code	Cr. Hrs.
Islamic Studies/Ethics	IRHU1013	3
Quantitative Methods in Social Sciences	IRHU1023	3
Introduction to Information Technology	IRCS1003	3
Principles of Economics	IREC1003	3

#### b) Interdisciplinary Courses (27 Cr. Hrs.)

The candidate can select 9 courses from the following list.

Course Title	Code	Cr. Hrs.
History of South Asia	IRHUx033	3
Introduction to Philosophy	IRHUx043	3
Law, Politics and Society	IRHUx053	3
Introduction to Geography	IRHUx063	3
Introduction to Sociology	IRHUx073	3
Introduction to Psychology	IRPYx003	3
Introduction to Mass Communication	IRELx043	3
General Science	IRHUx083	3
Chinese	IRELx053	3
Arabic	IRELx063	3
French	IRELx073	3
Introduction to Anthropology	IRPYx013	3
Introduction to Gender Studies	IRPYx023	3
Introduction to Public Administration	IRMGx013	3

# c) Discipline Specific Requirements (33 Cr. Hrs.)

,		- /
Course Title	Code	Cr. Hrs.
Introduction to Political Science	IR1103	3
Introduction to International Relations	IR1113	3
History of Political Thought	IR2123	3
Political Systems of the World	IR3133	3
Foreign Policy Analysis	IR3403	3
Approaches and Theories of International Relations	IR2203	3
International Relations: 1918 Onwards	IR2213	3
Geo-Political Structure of the World	IR1223	3
Public International Law	IR3233	3
Regional and International Organizations	IR3303	3
Research Methodology for Social Sciences	IR2403	3

# d) Major Courses (33 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Political Economy	IR4413	3
Foreign Policy of Pakistan	IR3423	3
International Economics: Issues and Institutions	IR3243	3
International Relations in South Asia	IR4253	3
Defense and Strategic Studies	IR3433	3
Contemporary Issues in Politics and Economy of Pakistan	IR4433	3
Conflict Management and Resolution	IR4443	3
Comparative Foreign Policies of Major Powers: US, Russia, China	IR4453	3
Politics of Social and Environmental Issues	IR3463	3
Emerging Security Concepts: Issues in Regional & Global Security	IR3473	3
Issues in Arms Control Disarmament & Nuclear Proliferation	IR4483	3



#### e) Elective Courses (12 Cr. Hrs.)

Students will choose four courses from the following List. It is a tentative list of elective/optional courses to be offered by the Department of Politics and International Relations. Developments at global level and national level may result into the updating of this list.

into the apaditing of this list.		
Course Title	Code	Cr. Hrs
Research Report	IR4903	3
Foreign and Security Policies of European Union	IR4503	3
Modernization and Democratization in the Muslim World	IR4513	3
Politics of Indian Ocean	IR4523	3
Foreign Policy of India	IR4533	3
Politics and Economics of International Migration	IR4203	3
International Relations in Islam	IR4213	3
International Trade and Monetary Policies	IR4223	3
Politics of Development Foreign Aid and Foreign Direct Investments	IR4543	3

MNCs and NGOs in International Relations	IR4243	3
US Foreign Policy	IR4233	3
Transition and Politics in Afghanistan and Central Asia	IR4103	3
East Asia as an Emerging Global Power	IR4553	3
Importance of Science and Technology in International Politics	IR4563	3
Politics of International Terrorism	IR4253	3
Seminar on Advanced Politics & Economic Issues of Pakistan	IR4113	3

### f) Community Service (IR3000)

Each student is required to complete 65 hours community work, usually after the 4th semester which would be prerequisite for the award of degree.

### **Program Duration**

This is four year degree program comprising of 8 semesters. There is a Fall and a Spring semesters in each year. The summer semester is utilized for deficiency courses. The maximum duration to complete the BS program is 7 years.



# Scheme of Studies BS International Relations

#### Semester-I (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
IREL1003	English-I	Compulsory	3
IRHU1003	Pakistan Studies	Compulsory	3
IRCS1003	Introduction to Information Technology	Compulsory	3
IR1103	Introduction to Political Science	Discipline Specific	3
IR1113	Introduction to International Relations	Discipline Specific	3
IRXXxxx3	IDC-1	Interdisciplinary	3

#### Semester-II (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
IREL1013	English-II	Compulsory	3
IRHU1013	Islamic Studies/Ethics	Compulsory	3
IRXXxxx3	IDC 2	Interdisciplinary	3
IR1223	Geo-Political Structure of the World	Discipline Specific	3
IREC1003	Principles of Economics	Compulsory	3
IRHU1023	Quantitative Methods in Social Sciences	Compulsory	3

### Semester-III (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
IREL2023	English-III	Compulsory	3
IR2213	International Relations: 1918 Onwards	Discipline Specific	3
IRXXxxx3	IDC-3	Interdisciplinary	3
IRXXxxx3	IDC-4	Interdisciplinary	3
IR2123	History of Political Thought	Discipline Specific	3

### Semester-IV (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
IREL2033	English-IV	Compulsory	3
IRXXxxx3	IDC-5	Interdisciplinary	3
IR2403	Research Methodology for Social Sciences	Discipline Specific	3
IR2203	Approaches and Theories of International Relations	Discipline Specific	3
IRXXxxx3	IDC-6	Interdisciplinary	3

# Scheme of Studies BS International Relations

#### Semester-V (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
IR3133	Political Systems of the World	Discipline Specific	3
IR3233	Public International Law	Discipline Specific	3
IR3303	Regional and International Organizations	Discipline Specific	3
IR3403	Foreign Policy Analysis	Discipline Specific	3
IRXXxxx3	IDC-7	Interdisciplinary	3

### Semester-VI (18 Cr. Hrs.)

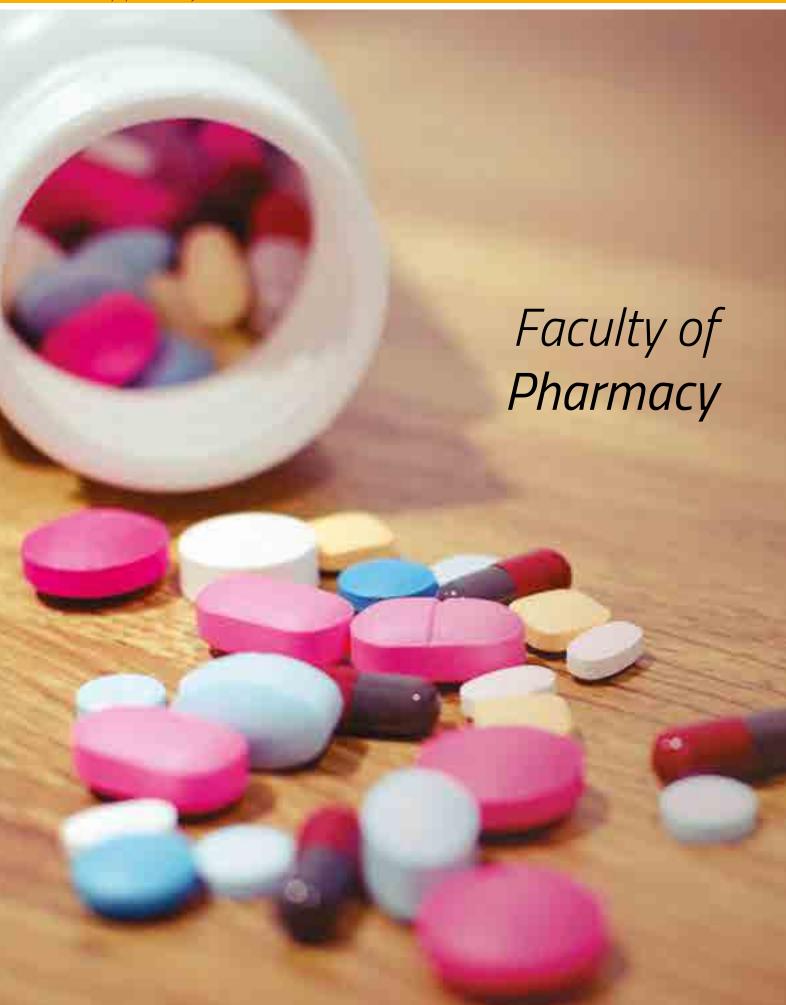
Course Code	Course Title	Category	Cr. Hrs.
IR3243	International Economics: Issues and Institutions	Major	3
IR3423	Foreign Policy of Pakistan	Major	3
IR3433	Defence and Strategic Studies	Major	3
IR3463	Politics of Social & Environmental Issues	Major	3
IR3473	Emerging Security Concepts: Issues in Regional & Global Security	Major	3
IRXXxxx3	IDC-8	Interdisciplinary	3

### Semester-VII (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
IR4253	International Relations in South Asia	Major	3
IR4453	Comparative Foreign Policy of Major Powers: US, Russia, China	Major	3
IR4413	Political Economy	Major	3
IR4483	Issues in Arms Control Disarmament & Nuclear Proliferation	Major	3
IR4433	Contemporary Issues in Politics and Economy of Pakistan	Major	3
IRXXxxx3	IDC-9	Interdisciplinary	3

### Semester-VIII (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
IR4443	Conflict Management And Resolutions	Major	3
IR4xx3	Elective-I	Elective	3
IR4xx3	Elective-II	Elective	3
IR4xx3	Elective-III	Elective	3
IR4xx3	Elective-IV	Elective	3





**Prof. Dr. Muhammad Jamshaid** Dean

It is my privilege to serve as Dean for this prestigious Faculty of Pharmacy, University of the Central Punjab, Lahore. Our university is one of the leading universities to de-velop your career and to make you a precious asset of the country. In order to meet the challenges of tomorrow, the university is trying to provide high standard profes-sional education in a very conducive environment to all our students. Faculty of Pharma-cy is home to world-class faculty, dedicated students and innovative researchers working towards im-proving medications and medication-related health outcomes.

After the recognition of Pharmacy education by Pharmacy Council of Pakistan and Higher Education Commission in 2011, our faculty has made enormous strides in meeting specific needs of both students and community, exploring new frontiers in drug discovery and development, pharmaceutical sciences, and translational clinical re-search. These labours have led to more than 30 manuscripts in the past three years. Here at the faculty, we value innovation, learning, advancement of knowledge, research and its applica-tions toward improving the use of medications in society, pharmaceutical care and professional-ism. Diversity in all of its forms is the core thought of faculty's research and develop-ment. We continually endeavour to augment our betterment and extend our national and in-ternational influence through quality education and research. We welcome your comments and sugges-tions for improvement of pharmacy education and research. I will expect you to participate in all healthy and academic activities of the faculty as well as the university.

I invite you to travel with us into a very illuminated future.

# Department of Pharmacy



**Dr. Mahmood Ahmad**HoD

### HoD's Message

Faculty of Pharmacy was established at the University of Central Punjab in recognition of the vital role played by the pharmacist in the health care system and to meet the National/International needs of the pharmacists and to develop the pharmacy profession in Pakistan. The Faculty has established the state of the art infrastructure in accordance with the guidelines of the Pharmacy Council of Pakistan. Initially, the Faculty is offering a five-year Doctor of Pharmacy Program (Pharm.D), which is recognized by the Higher Education Commission of Pakistan and is accredited by the Pharmacy Council of Pakistan.

The university has also started M.Phil. in Pharmacy (Pharmaceutics). Whereas, postgraduate programs in various disciplines of pharmacy are in progress. Faculty holds the mission to provide the holistic study with intellectual, social, cultural and physical development. Students are encouraged to develop knowledge, values and skills which will enrich their lives and prepare them to provide services to national and international communities. It has a vision to be recognized nationally and internationally for the innovation and excellence in pharmacy education, and contributions to advancing pharmacy practice. Faculty is striving hard to produce highly productive pharmacists, who not only fulfill the needs of local market but also become an important asset to international communities.

### **Accreditation Status**

All batches graduated from the Faculty of Pharmacy with Pharm.D degree are accredited by the Pakistan Pharmacy Council. The Doctor of Pharmacy Program is approved by the Council since its inception.



## **Faculty Members**

### Dr. Muhammad Jamshaid

PhD Pharmaceutics (University Of Wales, Cardiff, UK) M.Phil Pharmacy (University of the Punjab, Lahore) BSc. in Pharmacy (University of the Punjab, Lahore) Professor/Dean-Faculty of Pharmacy



#### Dr. Mahmood Ahmad

PhD Pharmacy (University of the Punjab, Lahore)
MSc Pharmacology (University of Agriculture, Faisalabad)
BSc. in Pharmacy (University of the Punjab, Lahore)
Professor/HOD-Faculty of Pharmacy



#### Dr. Khalid Idrees Khan

PhD Pharmaceutical Microbiology (University of the Punjab, Lahore) MSc Microbiology (University of Karachi, Karachi) Associate Professor



Dr. Mahtab Ahmad Khan

PhD Pharmacology (University of Lübeck, Germany) M.Phil Pharmacology (Bahauddin Zakariya University, Multan) BSc. in Pharmacy (Bahauddin Zakariya University, Multan) Associate Professor



#### Dr. Ghulam Jillany Khan

PhD Pharmacology (China Pharmaceutical University, Chi-na) M.Phil Pharmacology & Toxicology, (University of Vet-erinary and Animal Sciences, Lahore) PGD in Clinical Pharmacology (University of Alberta, Cana-da) MBA Healthcare Marketing (UVAS, Lahore) Doctor of Pharmacy (University of the Punjab, Lahore) Associate Professor



#### Dr. Faheem Ahmed Siddiqui

PhD Pharmacognosy (University of Karachi, Karachi) M.Phil Pharmacognosy (University of Karachi, Karachi) BSc. in Pharmacy (University of Karachi, Karachi) Assistant Professor



#### Dr. Khalil Khadim Hussain (On Post-Doc Leave)

PhD (Pusan National University South Korea) M.Phil Pharmaceutical Sciences (University of Greenwich, UK) BSc. in Pharmacy (University of the Punjab, Lahore) Assistant Professor



#### Dr. Muhammad Zaman

PhD Pharmaceutics (Bahauddin Zakariya University, Multan) M.Phil Pharmaceutics (Government College University, Faisalabad) Doctor of Pharmacy (University of Sargodha, Sargodha) Assistant Professor



#### Dr. Mian Waqar Mustafa

PhD Clinical Pharmacy & Pharmaceutical Care (Prince of Songkla University, Thailand) MS Clinical Pharmacy & Pharmaceutical Care (Prince of Songkla University, Thailand) Doctor of Pharmacy (Islamic University, Bahawalpur) Assistant Professor



#### Dr. Umer Farooq

PhD Medicinal Chemistry, (Zhejiang University, China) M.Phil Pharmaceutical chemistry, (Bahauddin Zakariya University, Multan) Doctor of Pharmacy, (Bahauddin Zakariya University, Multan) Assistant Professor



Dr. Waqar Aman

PhD Pharmaceutical Chemistry (Hanyang University, South Korea) MS Pharmaceutical Chemistry (Hanyang University, South Korea) Doctor of Pharmacy (University of Peshawar, Peshawar) Assistant Professor



Mr. Muhammad Shafeeq Ur Rahman

M.Phil Pharmacology, (University of Sargodha, Sargodha) MBA Marketing, (Multan Institute of Management Sciences, Multan) BSc. in Pharmacy, (Bahauddin Zakariya University, Multan) Assistant Professor



Mr. Muhammad Imran Sajid (On Study Leave)

M.Phil Biochemistry, (King Edward Medical University, Lahore) Doctor of Pharmacy, (University of the Punjab, Lahore) Assistant Professor



Ms. Sana Jameel

MSc Toxicology (University of Surrey, UK) Doctor of Pharmacy (University of Lahore, Lahore) Assistant Professor



Mr. Muhammad Nadeem Alvi

M.Phil Pharmaceutical Chemistry (University of the Punjab, Lahore) BSc. in Pharmacy, (University of the Punjab, Lahore) Assistant Professor



Mr. Irfan Bashir

Clinical Research Certified Professional (Dow University of Health Sciences, Karachi) M.Phil Pharmaceutics (Government College University, Faisalabad) Doctor of Pharmacy (University of the Punjab, Lahore) Assistant Professor



Mr. Imtiaz Majeed

M.Phil Pharmaceutics (University of the Punjab, Lahore) MBA Marketing (Pak-American Institute of Management Sciences, Lahore) BSc. in Pharmacy (University of the Punjab, Lahore) Assistant Professor



Ms. Rabia Saleem M.Phil Pharmacognosy, (University of the Punjab, Lahore) BSc. in Pharmacy, (University of the Punjab, Lahore) Assistant Professor



Ms. Ayesha Asif M.Phil Pharmacognosy (University of the Punjab, Lahore) Doctor of Pharmacy (University of the Punjab, Lahore) Assistant Professor



Ms. Nazia Tabasum (On Study Leave) M.Phil Pharmacology (University of Sargodha, Sargodha) Doctor of Pharmacy (Bahauddin Zakariya University, Multan) Assistant Professor



Ms. Tooba Mehboob M.Phil Pharmaceutics (University of Central Punjab, Lahore) Doctor of Pharmacy (University of the Punjab, Lahore) Lecturer



Ms. Sarah Ahmad M.Phil Pharmaceutics, (University of Central Punjab, Lahore) Doctor of Pharmacy, (Lahore College for Women University, Lahore) Lecturer



Mr. Hassan Ahmad DHA Exam, Pharmacist (Dubai Health Authority) SCHS Exam Pharmacy Specialist, (Saudi Commission for Health Specialties) M.Phil Pharmaceutics (Islamia University, Bahawalpur) Doctor of Pharmacy (Islamia University, Bahawalpur) Lecturer



Mr. Waqas Akram MSc Clinical Pharmacy (Universiti Teknologi MARA, Malaysia) Doctor of Pharmacy (Islamia University, Bahawalpur) Lecturer





Ms. Rabia Ali MS Pharmaceutical Chemistry (Government College University, Lahore) Doctor of Pharmacy (Lahore College of Pharmaceutical Sciences, Lahore) Lecturer



Ms. Ambreen Ishaque M.Phil Pharmacology (Lahore College for Women University, Lahore) Doctor of Pharmacy (Hajvery University, Lahore) Lecturer



Ms. Naila Tabassam M.Phil Pharmaceutics (University of Central Punjab, Lahore) Doctor of Pharmacy (Lahore College for Women, University) Lecturer



Ms. Rabia Aslam M.Phil Pharmaceutics (University of Central Punjab, Lahore) Doctor of Pharmacy (University of the Punjab, Lahore) Lecturer



Ms. Tehseen Riaz M.Phil Pharmaceutics, (University of Central Punjab, Lahore) Doctor of Pharmacy, (University of Lahore, Lahore) Lecturer





Ms. Seemab Ali

M.Phil Pharmaceutical Chemistry, (University of the Punjab, Lahore) Doctor of Pharmacy, (University of the Punjab, Lahore) Lecturer



Ms. Mubeen Amjad

MPhil Pharmaceutics (In Process) (University of Central Punjab, Lahore) Doctor of Pharmacy (University of Central Punjab, Lahore) Lecturer



Ms. Qurat Ul Ain

MPhil Pharmaceutics (In Process), (University of Central Punjab, Lahore) Doctor of Pharmacy, (University of Central Punjab, Lahore) Lecturer



Ms. Maimoona Abdul Jabbar

MPhil Pharmaceutics (In Process) (University of Central Punjab, Lahore) Doctor of Pharmacy (University of Central Punjab, Lahore) Lecturer



#### Ms. Hafsa Ihsan

MPhil Pharmaceutics (In Process), (University of Central Punjab, Lahore) Doctor of Pharmacy, (University of Central Punjab, Lahore) Lecturer

# Pharmacy Laboratories

Faculty of Pharmacy has been established with very clear objective/ view to pro-duce Pharmacists who must be well equipped not only with the theoretical knowledge but also fully trained/skilled through performing Practicals and re-search in the state of arts different laboratories of Faculty of Pharmacy at Doctor of Pharmacy and post graduate degree programs.

Besides, the students are given full opportunity to do internship in various ori-entations of pharmacy profession like Hospitals and Community pharmacy (Phar-macy Practice), Pharma Industry (Industrial and Pharmaceutical Technology) and training in some special areas such as INMOL, Drug Testing Laboratories and Fo-rensic Laboratory etc.

Brief description of these laboratories are as below;

#### Pharmaceutics Lab

The main objective of this fundamental lab is to enable students to gain practical knowledge and skills related to the field of Physical Pharmacy, Dosage Form and Dispensing of pharmaceuticals. The lab is fully

equipped to help students to learn the fundamentals and working principles of various instruments. It also covers the various phys-icochemical processes like precipitation, crystallization, distillation, lyophilization, efflorescence etc. It also encompasses on providing the pharmaceutical knowledge to apply these princi-ples in Pharmacy Profession.

# Instrumentation & Quality Control Lab

This lab is designed to undertake basic requirements of two courses i.e., Instrumen-tation and Pharmaceutical Quality Control Management. It provides the concepts of instrumental analytical methods and their ideal criteria in order to be reliable in light of pharmaceutical products specifications. It, however; focuses on the prin-ciples and applications of the different instrumental procedures that are employed in quantita-tive and qualitative pharmaceutical analysis. The topics includes electrochemistry, spectroscopy and chromatography and many others.

The pharmaceutical quality

management laboratory (PQML) serves one of the most important functions in pharmaceutical production and its quality control. PQML has been equipped with very sophisticated instruments like friabilator, hardness tester, dissolution apparatus, disintegration apparatus, spectrophotometer etc. The purpose of this lab is to make the students better understand about Pharmacopoeial specifica- tions re-garding formulation evaluation to meet the good pharmacy practices guidelines and official specifications.

### Physiology & Anatomy

The general objective of this lab is to provide the students with a knowledge of vari-ous systems of human body to treat the diseased conditions. In Human Anatomy and Physiology laboratory-based courses, Pharm-D students investigate the physiology of the human body. Experiments are the models-based explanation of organization of the body and major body systems along with the impact of pathological impacts on certain systems. Students learn through reading, video lessons, case studies, collaborative group work,



interactive notebook projects, and labs. Give training of dissection of a frog and rabbit for their isolated tissue studies. One of the major aspects of Physiology lab is to prepare students with the skills needed for the understanding of basic concepts in Pharmacology and Pathology.

### Pharmacology Lab

Pharmacology laboratory is equipped with some of the instruments and devices, that provides students a practical-knowledge and hand-on trainings of pharmaco-logical properties of different drugs. Theoretical concepts of pharmacology are il-lustrated in the lab, using isolated or whole animal preparation. Practicals are de-signed not only to teach students about experimental animal-handling but also to observe the comparative effect of known and unknown drugs. Different practical and simulation techniques are used to give an understanding of the physiological, cellular and molecular mechanisms of pharmacological agents. In this laboratory, students learn the pharmacokinetic principles. They investigate some of the re-sponses of rabbit ileum preparation to several

drugs, ranging from dose-response studies to demonstration of selective antagonism. Also, they learn about sympathetic and para-sympathetic effects of drugs on Rabbits eye to understand autonomic pharmacolo-gy.

### Pharmacognosy Lab

This course provides students with general knowledge of crude drugs associated with allopathic medicine. Special emphasis is given on study of crude drugs derived from medicinal plants, their morphological organs, origin, history, cultivation, col-lection, preparation, morphological and histological characters, constituents, adulterants, allied drugs and uses. The Lab is sufficiently equipped with the latest apparatus to con-duct experiments related to subject and carry out experimental analysis.

### Pharmaceutical Chemistry Lab

Pharmaceutical Chemistry lab provides qualitative and quantitative study of the chemical com-ponents of natural and synthetic and semisynthetic materials (sample). The separa-tion of components is often performed prior to

analysis. This lab is well equipped with instru-ments required for such chemical procedures. The students are instructed to analyze the or-ganic and inorganic compounds as per Pharmacopeial Standards along with practi-cal experience for synthesizing Active Pharmaceutical Ingredients etc.

*In this lab, students gain training by* performing various practical in areas of Pharmaceutical Organic Chemistry, Pharmaceutical Biochemistry and Medicinal Chemistry.

### Pharmaceutical Microbiology & Pathology Lab

This Lab is established to train students in the discipline of Microbiology. It is equipped with Autoclave, Incubator, Desiccator, Microscopes, Ovens, and Lami-nar Air Flow etc. The primary objective of this lab is to provide practical exposure to students on staining techniques, sterilization techniques including antibiotic assay, microbial screening, etc. Special training is given to handle and for analysis of sterile products e.g. injectable, ophthalmic preparations implants etc.



Pathology is the study of disease processes and the response of normal tissues to injury. It is a scientific link between basic sciences and clinical medicine. It pro-vides a comprehensive and yet, concise account of the important feature of dis-ease and to link, where possibly, the pathological changes with effects on the pa-tients. It helps the students to understand the causes of diseases in the patients.

### Computer Lab

This Lab is established to train students in knowledge of Internet and Email, Web Page Development Complete Statistical package like SPSS, Graph Pad Prism and End Note. The Lab is equipped with core i7 desktops. This practical knowledge helps a lot in management of various aspects of pharmacy profession such as inventory control, prescription screening regarding Drug Interaction of different types and to develop some special programs to best control the dispensing of Pharmaceu-ticals and Medicines in hospitals and community pharmacies. This training enables pharmacists

to make use of semi automation/ automation facilities in the field.

### Clinical Pharmacy Lab

This course deals more with the interaction of pharmacist with the patient in the ca-pacity of team members of the visiting doctors of the wards. More emphasize is giv-en on patient oriented factors in terms of proper selection, correct doses and dose reg-imen. It also covers the rational use of medicines for the treatment of the most common diseases like cardiovascular, respiratory, joint, and nervous systems etc. The course also deals with how to maximize the benefits and minimize the risks of treatment and the skills of using drugs utilizing evidence-based medicine and pharmaceutical care.

### **Biopharmaceutics Lab**

This course is intended to describe drug pharmacokinetic and Pharmacodynamic concepts, including absorption kinetics, volume of distribution, and compartmental models, absorption processes, single & multiple dosing,

& drug clearance. This course is also planned to cover prin-ciples and applications of biopharmaceutics including physicochemical, physiological, & formulation factors affecting drug bioavailability.

### Industrial/ Pharmaceutical Technology Lab

Faculty of Pharmacy has a welldeveloped and state of the art industrial/ Pharmaceuti-cal Technology laboratory to serve the students of 7th, 8th, 9th and 10th semesters. This lab is developed keeping in mind all the requirements of a developed pharmaceutical industry so that students can have an idea of all the sections working in a large scale pharma industry. This lab has more than 2400 square feet covered area having the fol-lowing 4 separate sections with all the necessary equipment's and instruments neces-sary for the training of future pharmacist.

#### Solid Dosage Form Section

This section has more than 25 different



replicas of large scale machines for the prepara-tion of powders, granules, tablets and capsule filling. That includes from weighing bal-ances, powder grinding and grading machines up to fluidized bed dryer and single punch and 15 punch rotary press tableting machines. This section also has all the in-struments required for tablet coating/polishing and capsule filling.

### Wet/ Dry Syrup Section

This section includes all the necessary pieces of equipment and instruments for the manufacturing of wet and dry syrups. It includes deionized water filtration plant, mixer and homogenizers like silvers on mixer and colloidal mill, filter press and bottle filling and sealing machines.

#### Semisolid Dosage Form Section

This section is dedicated to the production and packaging of semisolid dosage forms like creams, ointments and gels. It has all the required instruments like steam jacketed ointment mixer, triple roller mill, suppository molds, ointment filling and tube sealing machines

#### Sterile Injectable Section

This is a state of the art section with the replica of any modern sterile manufacturing area of any developed pharmaceutical industry. This section has separate entry through a changeover room and step over bench and all the necessary equipment/instruments for injectable manufacturing and filling. That includes mixers, filter mem- branes, vial and ampoule filling under laminar flow hood & sealing machine, cooking pans and necessary equipment for in-process quality control tests required in injectable manufacturing section like leak test apparatus, vial ampoule checking lamp etc.

The objective of these labs is to provide practical exposure to the budding pharma-cists on Pre-Formulation Screening Tests, Designing, Evaluation and Pharmacokinetic study of sol-id, liquid, semisolid dosage forms including Novel Drug Delivery Systems like ocular, nasal, trans mucosal, soft palatal drug delivery systems etc. which curtail the drug dose and minimizes the drug adverse reactions with excellent patient

compliance.

#### Research Lab

This lab is well equipped with sophisticated instruments and equipment including double beam UV spectrophotometer, Rotary Evaporator, latest homogenizer assembly to prepare Nano range formulations (Nano pharmaceuticals), Multi-station Franz dif-fusion cell assembly, Brookfield Viscometer, Dissolution, Disintegration etc. The lab is well equipped with all such facilities to be used in preformulation, formulation, sta-bility studies in different areas of Drug Delivery Systems.

Research is focused on market oriented problems. Also, research is focused on special dosage forms like orodispersable dosage forms, Gastro retentive dosage forms and in situ drug delivery.



# Doctor of Pharmacy (Pharm.D.)

### Admission Requirements

(i) F.Sc. (Pre-Medical) with minimum 60% marks

OR

(ii) A-Levels (Biology, Physics & Chemistry) or equivalent with minimum 60% marks, equivalence from IBCC will be required.

### Degree Requirements

Each candidate of Pharm.D. degree is required to complete 198 Cr. Hrs. with the minimum CGPA of 2.5 on the scale of 4.0 as per the following detail:

_		
	Area	Cr. Hrs.
a)	Pharmaceutics Courses	56
b)	Pharmaceutical Chemistry Courses	32
c)	Basic Medical Sciences Courses	32
d)	Pharmacognosy Courses	16
e)	Pharmacy Practice Courses	41
f)	Mathematics and Bio-statistics Courses	06
g)	Computer Science Courses	04
h)	Humanities Courses	11
	Total	198



a) Pharmaceutics Courses (56 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Pharmaceutics-IA (Physical Pharmacy)	PHPT1113	3
Pharmaceutics-IB (Physical Pharmacy)	PHPT1123	3
Pharmaceutics-IIA (Dosage Forms Science)	PHPT2133	3
Pharmaceutics-IIB (Dosage Forms Science)	PHPT2143	3
Pharmaceutics-IIIA (Pharmaceutical Microbiology & Immunology)	PHPT2153	3
Pharmaceutics-IIIB (Pharmaceutical Microbiology & Immunology)	PHPT2163	3
Pharmaceutics-IVA (Industrial Pharmacy)	PHPT4173	3
Pharmaceutics-IVB (Industrial Pharmacy)	PHPT4183	3
Pharmaceutics-VA (Biopharmaceutics & Pharmacokinetics)	PHPT4213	3
Pharmaceutics-VB (Biopharmaceutics & Pharmacokinetics)	PHPT4223	3
Pharmaceutics-VIA (Pharmaceutical Quality Management)	PHPT4233	3
Pharmaceutics-VIB (Pharmaceutical Quality Management)	PHPT4243	3
Pharmaceutics-VIIA (Pharmaceutical Technology)	PHPT5253	3
Pharmaceutics-VII (Pharmaceutical Technology)	PHPT5263	3
Pharmaceutics-IA (Physical Pharmacy) Lab	PHPT1111	1
Pharmaceutics-IB (Physical Pharmacy) Lab	PHPT1121	1
Pharmaceutics-IIA (Dosage Forms Science) Lab	PHPT2131	1
Pharmaceutics-IIB (Dosage Forms Science) Lab	PHPT2141	1
Pharmaceutics-IIIA (Pharmaceutical Microbiology & Immunology) Lab	PHPT2151	1
Pharmaceutics-IIIB (Pharmaceutical Microbiology & Immunology) Lab	PHPT2161	1
Pharmaceutics-IVA (Industrial Pharmacy) Lab	PHPT4171	1
Pharmaceutics-IVB (Industrial Pharmacy) Lab	PHPT4181	1
Pharmaceutics-VA (Biopharmaceutics & Pharmacokinetics) Lab	PHPT4211	1



Course Title	Code	Cr. Hrs.
Pharmaceutics-VB (Biopharmaceutics & Pharmacokinetics) Lab	PHPT4221	1
Pharmaceutics-VIA (Pharmaceutical Quality Management) Lab	PHPT4231	1
Pharmaceutics-VIB (Pharmaceutical Quality Management) Lab	PHPT4241	1
Pharmaceutics-VIIA (Pharmaceutical Technology) Lab	PHPT5251	1
Pharmaceutics-VIIB (Pharmaceutical Technology) Lab	PHPT5261	1

b) Pharmaceutical Chemistry Courses (32 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Pharmaceutical Chemistry-IA (Organic)	PHPC1313	3
Pharmaceutical Chemistry-IB (Organic)	PHPC1323	3
Pharmaceutical Chemistry-IIA (Biochemistry)	PHPC1333	3
Pharmaceutical Chemistry-IIB (Biochemistry)	PHPC1343	3
Pharmaceutical Chemistry-IIIA (Pharmaceutical Analysis)	PHPC3353	3
Pharmaceutical Chemistry-IIIB (Pharmaceutical Analysis)	PHPC3363	3
Pharmaceutical Chemistry-IVA (Medicinal Chemistry)	PHPC5373	3
Pharmaceutical Chemistry-IVB (Medicinal Chemistry)	PHPC5383	3
Pharmaceutical Chemistry-IA (Organic) Lab	PHPC1311	1
Pharmaceutical Chemistry-IB (Organic) Lab	PHPC1321	1
Pharmaceutical Chemistry-IIA (Biochemistry) Lab	PHPC1331	1
Pharmaceutical Chemistry-IIB (Biochemistry) Lab	PHPC1341	1
Pharmaceutical Chemistry-IIIA (Pharmaceutical Analysis) Lab	PHPC3351	1
Pharmaceutical Chemistry-IIIB (Pharmaceutical Analysis) Lab	PHPC3361	1
Pharmaceutical Chemistry-IVA (Medicinal Chemistry) Lab	PHPC5371	1
Pharmaceutical Chemistry-IVB (Medicinal Chemistry) Lab	PHPC5381	1

### c) Medical Sciences Courses (32 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Physiology-A	PHMS1513	3
Physiology-B	PHMS1523	3
Anatomy & Histology	PHMS1533	3
Pharmacology and Therapeutics-IA	PHMS2543	3
Pharmacology and Therapeutics-IB	PHMS2553	3
Pharmacology and Therapeutics-IIA	PHMS3563	3
Pharmacology and Therapeutics-IIB	PHMS3573	3
Pathology	PHMS3583	3
Physiology-A Lab	PHMS1511	1
Physiology-B Lab	PHMS1521	1
Anatomy & Histology Lab	PHMS1531	1
Pharmacology and Therapeutics-IA Lab	PHMS2541	1
Pharmacology and Therapeutics-IB Lab	PHMS2551	1
Pharmacology and Therapeutics-IIA Lab	PHMS3561	1
Pharmacology and Therapeutics-IIB Lab	PHMS3571	1
Pathology Lab	PHMS3581	1

## d) Pharmacognosy Courses (16 Cr. Hrs.)

Course Title	Сос	de	Cr. Hrs.
Pharmacognosy-IA (Basic)	PHPG.	2713	3
Pharmacognosy-IB (Basic)	PHPG	2723	3
Pharmacognosy-IIA (Advanced)	PHPG.	3733	3
Pharmacognosy-IIB (Advanced)	PHPG.	3743	3
Pharmacognosy-IA (Basic) Lab	PHPG	2711	1
Pharmacognosy-IB (Basic) Lab	PHPG	2721	1
Pharmacognosy-IIA (Advanced) Lab	PHPG.	3731	1
Pharmacognosy-IIB (Advanced) Lab	PHPG.	3741	1

### e) Pharmacy Practice Courses (41 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Pharmacy Practice-IIA (Dispensing Pharmacy)	PHPP3813	3
Pharmacy Practice-IIB (Community, Social & Administrative Pharmacy)	PHPP3823	3
Pharmacy Practice-IVA (Hospital Pharmacy)	PHPP4833	3
Pharmacy Practice-IVB (Hospital Pharmacy)	PHPP4843	3
Pharmacy Practice-VA (Clinical Pharmacy-I)	PHPP4853	3

Course Title	Code	Cr. Hrs.
Pharmacy Practice-VB (Clinical Pharmacy-I)	PHPP4863	3
Pharmacy Practice-VIA (Advanced Clinical Pharmacy-II)	PHPP5873	3
Pharmacy Practice-VIB (Advanced Clinical Pharmacy-II)	PHPP5883	3
Pharmacy Practice-VIIA (Forensic Pharmacy)	PHPP5913	3
Pharmacy Practice-VIIB (Forensic Pharmacy)	PHPP5923	3
Pharmacy Practice-VIIIA (Pharmaceutical Management & Marketing)	PHPP5933	3
Pharmacy Practice-VIIIB (Pharmaceutical Management & Marketing)	PHPP5943	3
Pharmacy Practice-IIA (Dispensing Pharmacy) Lab	PHPP3811	1
Pharmacy Practice-VA (Clinical Pharmacy-I) Lab	PHPP4851	1
Pharmacy Practice-VB (Clinical Pharmacy-I) Lab	PHPP4861	1
Pharmacy Practice-VIA (Advanced Clinical Pharmacy-II) Lab	PHPP5871	1
Pharmacy Practice-VIB (Advanced Clinical Pharmacy-II) Lab	PHPP5881	1

f) Mathematics and Bio-statistics Courses (06 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Pharmacy Practice-IA (Pharmaceutical Mathematics)	PHMT2013	3
Pharmacy Practice-IB (Bio-Statistics)	PHMT2023	3

g) Computer Science Courses (04 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Pharmacy Practice-III (Computer and its Applications in Pharmacy)	PHCS3013	3
Pharmacy Practice-III (Computer and its Applications in Pharmacy) Lab	PHCS3011	1

h) Humanities Courses (11 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
English-A (Functional English)	PHHU1012	2
English-B (Communication & Writing Skills)	PHHU1024	4
Islamic Studies	PHHU2033	3
Pakistan Studies	PHHU2042	2

### Community Service (PH3000)

Each student is required to complete 65 hours community work, usually after 8th semester which would be a prerequisite for the award of degree.

### **Program Duration**

This is a five-year degree program comprising of 10 semesters. There is a Fall and a Spring semester in each year. The summer semester is utilized for deficiency courses. The maximum duration to complete the Pharm.D. program is 7 years.



Course Code	Course Title	Category	Cr. Hrs.
PHHU1012	English-A (Functional English)	Humanities	2
PHPT1113	Pharmaceutics-IA (Physical Pharmacy)	Pharmaceutics	3
PHPT1111	Pharmaceutics-IA (Physical Pharmacy) Lab	Pharmaceutics	1
PHPC1313	Pharmaceutical Chemistry-IA (Organic)	Pharmaceutical Chemistry	3
PHPC1311	Pharmaceutical Chemistry-IA (Organic) Lab	Pharmaceutical Chemistry	1
PHPC1333	Pharmaceutical Chemistry-IIA -(Biochemistry)	Pharmaceutical Chemistry	3
PHPC1331	Pharmaceutical Chemistry-IIA (Biochemistry) Lab	Pharmaceutical Chemistry	1
PHMS1513	Physiology-A	Medical Sciences	3
PHMS1511	Physiology-A Lab	Medical Sciences	1
PHMS1533	Anatomy & Histology	Medical Sciences	3
PHMS1531	Anatomy & Histology Lab	Medical Sciences	1

### Semester II (20 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PHHU1024	English-B (Communication & Writing skills)	Humanities	4
PHPT1123	Pharmaceutics-IB (Physical Pharmacy)	Pharmaceutics	3
PHPT1121	Pharmaceutics-IB (Physical Pharmacy) Lab	Pharmaceutics	1
PHPC1323	Pharmaceutical Chemistry-IB (Organic)	Pharmaceutical Chemistry	3
PHPC1321	Pharmaceutical Chemistry-IB (Organic) Lab	Pharmaceutical Chemistry	1
PHPC1343	Pharmaceutical Chemistry-IIB (Biochemistry)	Pharmaceutical Chemistry	3
PHPC1341	Pharmaceutical Chemistry-IIB (Biochemistry) Lab	Pharmaceutical Chemistry	1
PHMS1523	Physiology-B	Medical Sciences	3
PHMS1521	Physiology-B Lab	Medical Sciences	1





### Semester III (22 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PHHU2033	Islamic Studies	Humanities	3
PHPT2133	Pharmaceutics-IIA (Dosage Forms Science)	Pharmaceutics	3
PHPT2131	Pharmaceutics-IIA (Dosage Forms Science) Lab	Pharmaceutics	1
PHPT2153	Pharmaceutics-IIIA (Pharmaceutical Microbiology & Immunology)	Pharmaceutics	3
PHPT2151	Pharmaceutics-IIIA (Pharmaceutical Microbiology & Immunology) Lab	Pharmaceutics	1
PHMS2543	Pharmacology and Therapeutics-IA	Medical Sciences	3
PHMS2541	Pharmacology and Therapeutics-IA Lab	Medical Sciences	1
PHPG2713	Pharmacognosy-IA (Basic)	Pharmacognosy	3
PHPG2711	Pharmacognosy-IA (Basic) Lab	Pharmacognosy	1
PHMT2013	Pharmacy Practice-IA (Pharmaceutical Mathematics)	Mathematics And Biostatistics	3

#### Semester IV (21 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PHHU2042	Pakistan Studies	Humanities	2
PHPT2143	Pharmaceutics-IIB (Dosage Forms Science)	Pharmaceutics	3
PHPT2141	Pharmaceutics-IIB (Dosage Forms Science) Lab	Pharmaceutics	1
PHPT2163	Pharmaceutics-IIIB (Pharmaceutical Microbiology & Immunology)	Pharmaceutics	3
PHPT2161	Pharmaceutics-IIIB (Pharmaceutical Microbiology & Immunology) Lab	Pharmaceutics	1
PHMS2553	Pharmacology and Therapeutics-IB	Medical Sciences	3
PHMS2551	Pharmacology and Therapeutics-IB Lab	Medical Sciences	1
PHPG2723	Pharmacognosy-IB (Basic)	Pharmacognosy	3
PHPG2721	Pharmacognosy-IB (Basic) Lab	Pharmacognosy	1
PHMT2023	Pharmacy Practice-IB (Bio-statistics)	Mathematics And Biostatistics	3

# Scheme of Studies Doctor of Pharmacy (Pharm.D.)

### Semester V (20 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PHPP3813	Pharmacy Practice-IIA (Dispensing Pharmacy)	Pharmacy Practice	3
PHPP3811	Pharmacy Practice-IIA (Dispensing Pharmacy) Lab	Pharmacy Practice	1
PHPC3353	Pharmaceutical Chemistry-IIIA (Pharmaceutical Analysis)	Pharmaceutical Chemistry	3
PHPC3351	Pharmaceutical Chemistry-IIIA (Pharmaceutical Analysis) Lab	Pharmaceutical Chemistry	1
PHMS3563	Pharmacology and Therapeutics-IIA	Medical Sciences	3
PHMS3561	Pharmacology and Therapeutics-IIA Lab	Medical Sciences	1
PHPG3733	Pharmacognosy-IIA (Advanced)	Pharmacognosy	3
PHPG3731	Pharmacognosy-IIA (Advanced) Lab	Pharmacognosy	1
PHMS3583	Pathology	Medical Sciences	3
PHMS3581	Pathology Lab	Medical Sciences	1

### Semester VI (19 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PHPP3823	Pharmacy Practice-IIB (Community, Social & Administrative Pharmacy)	Pharmacy Practice	3
PHPC3363	Pharmaceutical Chemistry-IIIB (Pharmaceutical Analysis)	Pharmaceutical Chemistry	3
PHPC3361	Pharmaceutical Chemistry-IIIB (Pharmaceutical Analysis) Lab	Pharmaceutical Chemistry	1
PHMS3573	Pharmacology and Therapeutics-IIB	Medical Sciences	3
PHMS3571	Pharmacology and Therapeutics-IIB Lab	Medical Sciences	1
PHPG3743	Pharmacognosy-IIB (Advanced)	Pharmacognosy	3
PHPG3741	Pharmacognosy-IIB (Advanced) Lab	Pharmacognosy	1
PHCS3013	Pharmacy Practice-III (Computer and its Applications in Pharmacy)	Computer Science	3
PHCS3011	Pharmacy Practice-III (Computer and its Applications in Pharmacy) Lab	Computer Science	1



# Scheme of Studies Doctor of Pharmacy (Pharm.D.)

### Semester VII (19 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PHPP4833	Pharmacy Practice-IVA (Hospital Pharmacy)	Pharmacy Practice	3
PHPP4853	Pharmacy Practice-VA (Clinical Pharmacy-I)	Pharmacy Practice	3
PHPP4851	Pharmacy Practice-VA (Clinical Pharmacy-I) Lab	Pharmacy Practice	1
PHPT4173	Pharmaceutics-IVA (Industrial Pharmacy)	Pharmaceutics	3
PHPT4171	Pharmaceutics-IVA (Industrial Pharmacy) Lab	Pharmaceutics	1
PHPT4213	Pharmaceutics-VA (Biopharmaceutics & Pharmacokinetics)	Pharmaceutics	3
PHPT4211	Pharmaceutics-VA (Biopharmaceutics & Pharmacokinetics) Lab	Pharmaceutics	1
PHPT4233	Pharmaceutics-VIA (Pharmaceutical Quality Management)	Pharmaceutics	3
PHPT4231	Pharmaceutics-VIA (Pharmaceutical Quality Management) Lab	Pharmaceutics	1

### Semester VIII (19 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PHPP4843	Pharmacy Practice-IVB (Hospital Pharmacy)	Pharmacy Practice	3
PHPP4863	Pharmacy Practice-VB (Clinical Pharmacy-I)	Pharmacy Practice	3
PHPP4861	Pharmacy Practice-VB (Clinical Pharmacy-I) Lab	Pharmacy Practice	1
PHPT4183	Pharmaceutics-IVB (Industrial Pharmacy)	Pharmaceutics	3
PHPT4181	Pharmaceutics-IVB (Industrial Pharmacy) Lab	Pharmaceutics	1
PHPT4223	Pharmaceutics-VB (Biopharmaceutics & Pharmacokinetics)	Pharmaceutics	3
PHPT4221	Pharmaceutics-VB (Biopharmaceutics & Pharmacokinetics) Lab	Pharmaceutics	1
PHPT4243	Pharmaceutics-VIB (Pharmaceutical Quality Management)	Pharmaceutics	3
PHPT4241	Pharmaceutics-VIB (Pharmaceutical Quality Management) Lab	Pharmaceutics	1



# Scheme of Studies Doctor of Pharmacy (Pharm.D.)

### Semester IX (18 Cr. Hrs.)

Semester IX (10 ci. 1113)			
Course Code	Course Title	Category	Cr. Hrs.
PHPT5253	Pharmaceutics-VIIA (Pharmaceutical Technology)	Pharmaceutics	3
PHPT5251	Pharmaceutics-VIIA (Pharmaceutical Technology) Lab	Pharmaceutics	1
PHPP5873	Pharmacy Practice-VIA (Advanced Clinical Pharmacy-II)	Pharmacy Practice	3
PHPP5871	Pharmacy Practice-VIA (Advanced Clinical Pharmacy-II) Lab	Pharmacy Practice	1
PHPP5913	Pharmacy Practice-VIIA (Forensic Pharmacy)	Pharmacy Practice	3
PHPP5933	Pharmacy Practice-VIIIA (Pharmaceutical Management & Marketing)	Pharmacy Practice	3
PHPC5373	Pharmaceutical Chemistry-IVA (Medicinal Chemistry)	Pharmaceutical Chemistry	3
PHPC5371	Pharmaceutical Chemistry-IVA (Medicinal Chemistry) Lab	Pharmaceutical Chemistry	1

### Semester X (18 Cr. Hrs.)

Semester A (10 cm ms)			
Course Code	Course Title	Category	Cr. Hrs.
PHPT5263	Pharmaceutics-VIIB (Pharmaceutical Technology)	Pharmaceutics	3
PHPT5261	Pharmaceutics-VIIB (Pharmaceutical Technology) Lab	Pharmaceutics	1
PHPP5883	Pharmacy Practice-VIB (Advanced Clinical Pharmacy-II)	Pharmacy Practice	3
PHPP5881	Pharmacy Practice-VIB (Advanced Clinical Pharmacy-II) Lab	Pharmacy Practice	1
PHPP5923	Pharmacy Practice-VIIB (Forensic Pharmacy)	Pharmacy Practice	3
PHPP5943	Pharmacy Practice-VIIIB (Pharmaceutical Management & Marketing)	Pharmacy Practice	3
PHPC5383	Pharmaceutical Chemistry-IVB (Medicinal Chemistry)	Pharmaceutical Chemistry	3
PHPC5381	Pharmaceutical Chemistry-IVB (Medicinal Chemistry) Lab	Pharmaceutical Chemistry	1





# M.Phil. Pharmacy (Pharmaceutics)

### **Admission Requirements**

- (i) Pharm.D or B.Pharm. from HEC & PCP recognized institutions minimum 2.00/4.00 CGPA in semester system or 50% marks in annual system.
- (ii) UCP Admission / HEC Approved Test.

### Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate of M.Phil. degree is required to complete 30 Cr. Hrs. as per the following detail:

	Area	Cr. Hrs.
a)	Core Courses	06
b)	Specialization Courses	18
c)	Research Thesis/Project/Additional Courses	06

### a) Core Courses

Course	Code	Cr. Hrs.
Biostatistics	PHPT6013	3
Research Methodology, Seminar & Project Writing	PHPT6023	3

### b) Specialization Courses

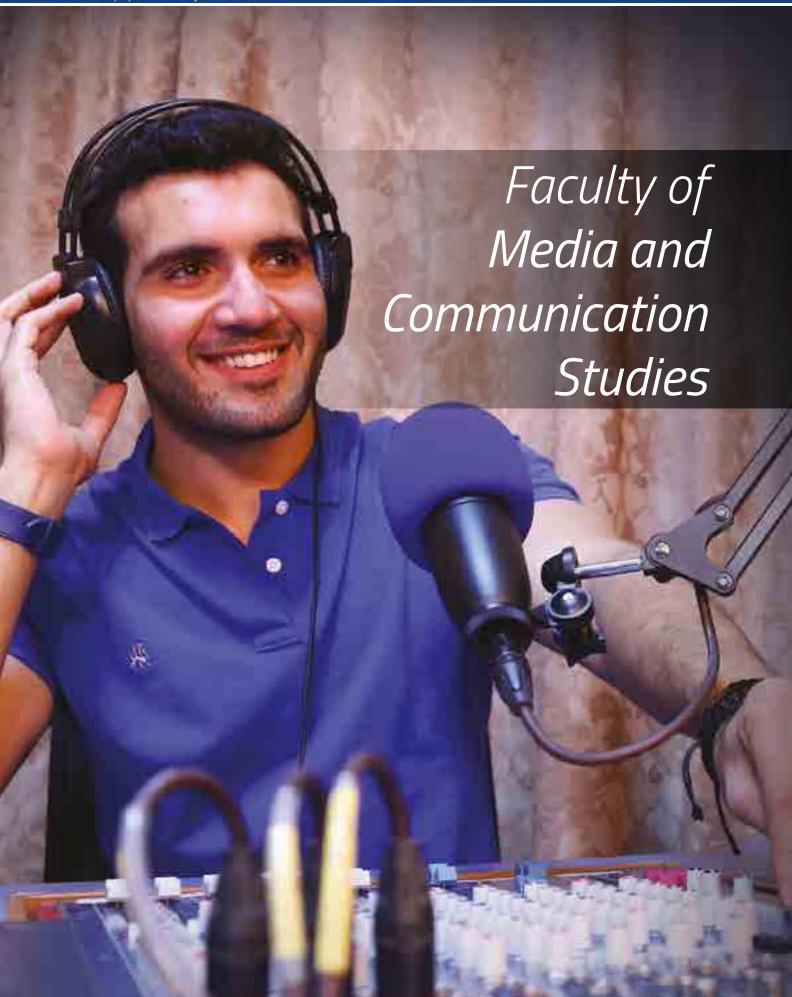
Course	Code	Cr. Hrs.
Advanced Pharmaceutics-I	PHPT6113	3
Applied Biopharmaceutics & Pharmacokinetics	PHPT6123	3
Pharmaceutical Microbiology	PHPT6133	3
Pharmaceutical Technology	PHPT6143	3
Clinical Pharmacy	PHPT6153	3
Advanced Pharmaceutics-II	PHPT6163	3

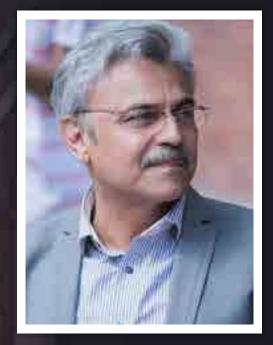
#### c) Research Thesis

Course	Code	Cr. Hrs.
Research Thesis	PHPT7126	6
Thesis Continuation	PHPT7121	1

### **Program Duration**

This is nominally a two-year degree program comprising of 04 semesters. There is a Fall and a Spring semester in each year. The maximum duration to complete the program is 4 years.





Dr. Taimoor-Ul-Hassan Dean

The field of mass media and communication studies is evolving at a rapid pace as a result of the changes taking place in media industries with the emergence of new media technologies. The new modes of communication, audiences and effects at social, cultural, political and global levels in a highly interconnected world have offered numerous possibilities for the media schools around the world to tailor their academic programs and professional training accordingly to meet the requirements of contemporary media environment. The Faculty of Media and Communication Studies (FMCS) at the University of Central Punjab (UCP) is geared towards becoming a vital part of this paradigmatic shift in the media industries and media education. As the Dean of FMCS, my vision synchronizes with the UCP's vision of attaining highest international standards in education. The distinguished faculty members, staff and students at the FMCS are committed to this vision and are constantly endeavoring to attain academic and professional excellence and explore emerging horizons to become a brand name in the media and communication industries and academia at the international level.

At FMCS, we impart in-depth knowledge and industrybased skill sets, along with critical thinking and creativity, in order to harness the students' potential for a future either within or beyond the media and communication industries. We provide an interdisciplinary environment with focus on the core components of the media and communication degrees. We offer various degree programs including BS (Honors), M.Sc., MS (Research and Professional) and PhD (Media and Communication Studies) that embrace different theoretical, practical, methodological and scientific approaches. We develop

the students' qualifications and skills required to work as print and electronic media professionals, film and theatre directors, public relations and advertising specialists, digital media content writers, producers, data journalists, immersive media experts, innovators, media entrepreneurs, scholars and researchers. We offer an array

of exceptional facilities like in-house TV studio, Non-Linear Editing Lab, in-house Radio Station FM 92.6 (UCP Ki Dunya) to equip students with the practical knowledge needed to be successful media professionals at the national and international levels. In addition to these facilities, the students will have the chance to gain hands-on experience through our internship programs at Dunya Media Group. The quality of FMCS faculty and the vitality of its programs remain unmatched.

As the Dean of this highly motivated Faculty, I invite you all to become a part of the dynamic transformation that is taking place in media education and training at the FMCS. We sit at the crossroads of a new dawn of media education and profession the world over, and the Faculty of Media and Communication Studies at UCP is all set to lead this transformation by virtue of the commitment of its faculty and potential of its students.

# Department of Media and Communication Studies



HoD

### HoD's Message

UCP established Faculty of Media and Communication Studies (FMCS) in 2014. It is now a leading media faculty of Pakistan with 1200 plus enrolled students under the visionary leadership of an eminent media educationist of Pakistan, Prof. Dr. Taimoor-ul-Hassan. In order to provide an outstanding teaching and learning experience, the faculty has developed an interdisciplinary curriculum that helps students prepare for a career in the professions of electronic and print journalism, film and theatre industry, advertising and PR, digital media, communication Dr. Taimoor-Ul-Hassan research, media entrepreneurship, education, politics, marketing and management at government, and non-government institutions. FMCS not only teaches degree programs in Media and Communication Studies but also provides strong exposure and exceptional practical opportunities to its students through internships and job placements at well reputed organizations.

FMCS offers the following features and facilities to help students to achieve their potential:

- The first ever state-of-the-art in-house TV Studio/Production House. An ideal opportunity for students to get hands-on training to produce news bulletins, news reports, talk shows, short films, documentaries as well as virtual studio productions
- Non-Linear Editing Lab with latest editing and graphic designing software
- FM Radio 92.6, UCP Ki Dunya; the first educational Radio Station in Pakistan running round the clock transmission (24/7)
- Film and Theatre Centre (FTC)
- In-house Internship opportunities for students in Production House/TV Studio, NLE lab and FM Radio 92.6, UCP Ki Dunya, Dunya News/TV, Dunya Newspaper and Lahore News.
- Internship and career opportunities for students in leading TV channels, newspapers, Public Relations & Advertising agencies, Radio stations and in other different media outlets.
- Faculty's collaboration with Arizona State University & US State Department as a project partner to improve election coverage in Pakistan. In the first phase of this project, the course of "Media, Politics and Reporting Elections" has been introduced for the students of M.Phil. degree program.



### Faculty Members

#### Dr. Taimoor-Ul-Hassan

PhD Mass Communication (University of Karachi)
MA Mass Communication (University of the Punjab, Lahore)
BA Journalism (University of the Punjab, Lahore)
Professor/Dean-Faculty of Media & Communication Studies



#### Dr. Shafiq Jullandhry

PhD Mass Communication (University of the Punjab, Lahore) MS Development Communication (Iowa State University, USA) MA Mass Communication (University of the Punjab, Lahore) Professor



#### Dr. Ghulam Shabir

Post-Doctoral Fellowship Mass Comm, (University of Surrey, UK) PhD Mass Communication, (Islamia University, Bahawalpur) MA Mass Communication, (University of the Punjab, Lahore) BA Journalism, (Bahauddin Zakariya University, Multan) Professor



#### Dr. Fawad Baig

PhD Media & Communication (Technische Universita" t Dresden, Germany)
PhD Computer Science (University of Education, Lahore)
MSc Computer Science (Hamdard University, Karachi)
Associate Professor



#### Dr. Atif Ashraf

PhD Media Studies (The Islamia University of Bahawalpur) M.Phil Mass Communication (AIOU, Islamabad) MA Mass Communication (University of the Punjab, Lahore) BA Journalism (University of the Punjab, Lahore) Assistant Professor



#### Dr. Noor Hayat Sargana

PhD Communication Studies (Universiti Sains, Malaysia) MS Mass Communication (Universiti Teknologi MARA, Malaysia) Assistant Professor



#### Ms. Hina Adeeb

M. Phil Mass Communication (University of the Punjab, Lahore) BS Communication Studies (University of the Punjab, Lahore) Assistant Professor / HOD – UCP Radio



Mr. Nasir Ali Mazari

MS Film & TV (Beaconhouse National University, Lahore) MA TV & Film (Beaconhouse National University, Lahore) BA Journalism & Sociology (Islamia University, Bahawalpur) Assistant Professor



Mr. Muhammad Kamran Butt

M.Phil Communication (Superior University, Lahore) M.Phil Sociology (University of the Punjab, Lahore) MSc Sociology (University of the Punjab, Lahore) BSc. Engineering (University of the Punjab, Lahore) Principal Lecturer



Mr. Ali Ashraf

M.Phil (University of Punjab) MSc. Communication Studies (University of Punjab) BA Journalism (University of the Punjab, Lahore) Senior Lecturer



Mr. Fahad Anis

M.Phil Mass Communication (Allama Igbal Open University, Lahore) MSc Communication Studies (University of the Punjab, Lahore) Senior Lecturer



Mr. Mohammad Irfan Ali

M.Phil Education Sociology & development (University of the Punjab, Lahore) MSc Communication Studies (University of the Punjab, Lahore) Senior Lecturer



Ms. Ayesha Sadiqa

M.Phil Mass Communication (University of the Punjab, Lahore) MSc. Mass Communication (University of the Punjab, Lahore) Senior Lecturer



Ms. Muniba Fatima Zahra

M.Phil (University of Sargodha, Sargodha) MA Mass Communication (University of Sargodha, Sargodha) Senior Lecturer



Mr. Rehman Nasir
MS Media & Communication Studies (IIU, Islamabad)
MSc Media & Communication Studies (IIU, Islamabad)
Lecturer



Mr. Ahsan Tariq Farooqi M.Phil Media & Communication Studies (University of Central Punjab, Lahore) MA Journalism (University of the Punjab, Lahore) Lecturer & Coordinator M.Sc. Journalism Program



Ms. Sadaf Zahra M.Phil (Bahauddin Zakariya University, Multan) BS (Virtual University, Lahore) Lecturer



Mr. Saleem Akhtar Maghrana M.Phil Communication Studies (University of the Punjab, Lahore) MSc. Communication Studies (University of the Punjab, Lahore) Lecturer



Mr. Muhammad Faizan Akhtar M. Phil Media & Communication Studies (University of Central Punjab, Lahore) BA (Hons.) Mass Communication, (Forman Christian College University, Lahore) Lecturer



Mr. Farahat Ali MPhil ternational Communication (University of the Punjab, Lahore) BS Mass Communication (University of Sargodha) Lecturer



Ms. Ashbeelah Shafaqat Ali

M.Phil in Media and Communication Studies (University of Central Punjab, Lahore) MBA Marketing (University of Central Punjab, Lahore) Lecturer



Ms. Tabina Sirhindi

MPhil Communication Studies (University of the Punjab, Lahore) BS Communication Studies (University of the Punjab, Lahore) Lecturer



Ms. Tabina Sirhindi

MPhil Communication Studies (University of the Punjab, Lahore) BS Communication Studies (University of the Punjab, Lahore) Lecturer



Ms. Yakhshi Saleem

M.Phil Media Studies (Kinnaird College for Women, Lahore) BA (Hons.) Mass Communication (Kinnaird College for Women, Lahore) Lecturer



Ms. Momina Abrar

MA Multi Media Arts (Film Making, Animation & Design) (National College of Arts, Lahore) BS Media & Communication Studies (Fatima Jinnah Women University, Rawalpindi) Lecturer



Ms. Rabail Niaz

M.Phil Mass Communication (Beaconhouse National University) BS Mass Communication (Lahore College for Women University, Lahore) Lecturer



# **Experimental Facilities**

Faculty of Media and Communications Studies provides a significant experience both at graduate and undergraduate level by exposing and training its students to practical media world and in this connection, the Faculty has the following state-of-theart experimental facilities:

### Radio Station FM 92.6 – UCP Ki Dunya

The creation of the commercial-free campus based radio; FM 92.6 UCP Ki Dunya is an important milestone in the educational history of University of Central Punjab. With 500 Watts FM Transmitter and 15-20 KM Radius, UCP Ki Dunya is the only FM station in educational sector which provides 24/7 transmission to its audience. At UCP radio, students learn a number of

voice broadcasting techniques and are involved in activities including audio documentaries, Audio News Release (ANR), magazine programs, news reel production, live transmission and other program formats. Besides, students also learn the art of vocal production, present their programs both recorded, and live. At our audio studios, students perform all major editing tasks and learn how to edit, trim, mix, record, and apply effects. With the rapid growth of media market and its further integration with social media, UCP FM radio station has initiated 24 hours' web service and an android application service thus making a mark of the campus radio on the global map. The UCP Radio, FM 92.6 is fully integrated with the modern broadcasting facilities. Live streaming to explore

new voice artists/talents, auditions are held after every six months under the supervision of highly trained UCP media professionals. We guide youth in the right way, make them useful member of the global community and revitalize their culture and norms, which are becoming obsolete.

#### **UCP TV & Production House**

UCP TV & Production House is the Largest and Finest on campus TV & Production House that offers opportunities to Students of Media & Communication Studies to explore the world of TV, Film & Journalism by learning the various stages of Production. These opportunities include reporting, interviewing, anchoring, hosting, content writing, camera handling, Control Room operations,



lighting, sound mixing, Video editing, Production and direction. UCP TV & Production House is equipped with State of the art Infrastructure that includes world class Studios, latest News and Talk Show sets, Virtual Wall, HD Cameras, Control Room and Video Editing Lab supervised by experts & media professionals of the country. UCP TV is the fastest growing WEB TV Channel among Public and Private Universities of Pakistan. UCP TV produces various Indoor and Outdoor Programs & News Bulletins for its Web Transmission. It has expanded its coverage and reach to Lahore City, which is helping students to learn maximum of practical work in the field. The training process at UCP TV & Production House aims to strike a balance between the theoretical

and practical approaches as per requirements of media Industry.

#### Film and Theater Center

Faculty of Media and Communication Studies has established a Film and Theatre Center for the training of students specializing in theater, film, and TV. The Center contains a mini stage for the practice session of theater students as well as a state of the art HD projector having sharp resolution and excellent graphics that is used to screen the films and other video projects produced by the students of FMCS.

### Non-Linear Editing (NLE) Lab

Keeping in view the educational and professional needs of media education and industry, Faculty of Media and

Communication Studies has a state of the art Non-linear Editing Lab specifically designed and equipped with 32 Mac systems with both OS X and Windows. The lab features highend Macs, running industry standard applications for Video, Film, Animation, and Multimedia Design. Software as standard includes: Adobe suite namely Aftereffects, Animate, Photoshop, Illustrator, InDesign, Premiere, Audition as well as Final Cut Pro. The NLE lab facilitates the students of undergraduate, graduate and postgraduate degree programs with industry-standard facilities that allows them to use the same world-class system necessary for professional productions

# **BS Media and Communication Studies**

### **Admission Requirements**

- (i) Higher Secondary School Certificate or Equivalent with 45% marks in aggregate. In case of foreign qualification, equivalence from IBCC will be required.
- (ii) UCP Admission Test or HEC approved test.

### Degree Requirements

Each candidate of BS Media & Communication Studies degree is required to complete 134 Cr. Hrs. with the minimum CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Compulsory Courses	25
b)	General Courses Sciences	12
c)	Foundation Courses	27
d)	Major Courses	24
e)	Specialization Courses	36
f)	Internship	04
g)	Project	06
	Total	134

### a) Compulsory Courses (25 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
English I	MCHU1003	3
English II	MCHU1013	3
Pakistan Studies	MCHU1023	3
Islamic Studies	MCHU1032	2
Computer Skills	MCCS1002	2
Statistics	MCMT2003	3
Foreign Language	MCEL 1003	3
News Reporting & Writing (English/Urdu)	MC1203	3
Speak Well	MCEL2013	3





# b) General Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Sociology	MCHU2043	3
International Relations	MC1703	3
Contemporary Issues in Politics & Economy of Pakistan	MC3303	3
Functional Urdu	MCEL2023	3

# c) Foundation Courses (27 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Mass Communication	MC1403	3
Foundation of Public Relations	MC2713	3
Introduction to Film & Theater Studies	MC2603	3
TV Production (News & Current Affairs)	MC2213	3
Fundamentals of Advertising	MC2723	3
Introduction to Digital Media	MC1803	3
Development Communication	MC2413	3
Data Journalism	MC3503	3
Introduction to Broadcast Journalism	MC1513	3

# d) Major Courses (24 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Media Laws and Ethics	MC2103	3
Mass Communication Theories	MC2423	3
Documentary	MC3613	3
Research Methods	MC3003	3
Feature, Column & Editorial Writing	MC1223	3
Storytelling in Digital Age	MC2813	3
Contemporary World Media	MC3823	3
Community Media	MC3833	3

# e) Specialization Courses within Major (36 Cr. Hrs.)

After successfully completing five semesters of the BS Hons. Media and Communication Studies program, from the sixth semester students can opt for any one of the following four specializations:

1		
Specialization	Code	Cr. Hrs.
Professional Journalism (Electronic & Print Media)	MCxxxx	36
Theater, Film & Television	MCxxxx	36
Advertising & Public Relations	MCxxxx	36
Digital Media and Entrepreneurship	MCxxxx	36
Following are the list of courses for e	each specializa	tion:

Course Title	Code	Cr. Hrs.
Professional Journalism (Electronic & Print Media)		
Online Journalism (Theory and Practice)	MC3523	3
Radio Feature & Drama Writing	MC3533	3
Media Production Software	MC3543	3
Investigative Journalism / Academic Writing	MC3553	3
Camera Techniques	MC3563	3
Magazine Production	MC4503	3
Live/Outdoor Broadcasting	MC4513	3
Advance Documentary Production	MC4523	3
TV Anchoring & Hosting	MC4533	3

Course Title	Code	Cr. Hrs.
Radio Production	MC4543	3
Media Management	MC4553	3
Mobile Technology & Journalism Practices	MC4563	3
Theater, Film & Television		
Script & Screenplay Writing (Theater, Film & TV)	MC3623	3
Camera Techniques	MC3633	3
Art of Direction	MC3643	3
Introduction to Acting	MC3653	3
Film Criticism & Appreciation/ Academic Writing	MC3663	3
Sound Design	MC4603	3
Cinematography	MC4613	3
Theatre Production Design	MC4623	3
Animated Films	MC4633	3
Studio Production	MC4643	3
Post Production & Special Effects	MC4653	3
Media Promotion & Marketing	MC4663	3
Advertising & Public Relations		
Branding Strategy	MC3703	3
International PR & Advertising	MC3713	3
Media Buying & Planning	MC3723	3



Course Title	Code	Cr. Hrs.
Research in Advertising and PR/ Academic Writing	MC3733	3
Visual Communication Design	MC3743	3
Copywriting (Theory & Practice)	MC4703	3
Corporate Social Responsibility (CSR)	MC4713	3
Crisis Communication	MC4723	3
Account Management	MC4733	3
Production for Advertising & PR	MC4743	3
Public Relations & Advertising in Digital Age	MC4753	3
Integrated Marketing Communications	MC4763	3
Digital Media and Entrepreneurship		
Business Model Development & Innovation	MC3843	3
Web Design and Development	MC3853	3
Videogames: Reality in Play	MC3863	3
Writing for the Web/ Academic Writing	MC3873	3
Visual Communication Design	MC3883	3
Digital Media Entrepreneurship	MC4803	3
Immersive Media	MC4813	3
Mobile Technology & Journalism Practices	MC4823	3

Course Title	Code	Cr. Hrs.
Digital Video Production	MC4833	3
Web Series	MC4843	3
Digital Publishing	MC4853	3
PR & Advertising in Digital Age	MC4863	3

# f) Internship (04 Cr. Hrs.)

Each student is required to complete an 8-week industrial internship training usually after 6 semesters or on the completion of 90 Cr. Hrs.

# g) Project (06 Cr. Hrs.)

In the final year, the students are required to demonstrate their practical skills in the field of Media and Communication by designing and implementing a project worth 6 Cr. Hrs.

Course Title	Code	Cr. Hrs.
Project	MC4916	6

# Volunteers in Service (MC3000)

Each student is required to complete 65 hours community work, usually after 4th semester which would be a prerequisite to clear the student for the award of degree.

# **Program Duration**

This is a four-year degree program comprising of 08 semesters with a minimum of 134 credit hours. There will be a Fall and Spring semester in each year. The minimum and maximum duration to complete BS Hons. Media and Communication Studies program is 04 and 07 years respectively.



# Scheme of Studies BS Media and Communication Studies

### Semester-I (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MCHU1003	English I	Compulsory	3
MCHU1023	Pakistan Studies	Compulsory	3
MC1403	Introduction to Mass Communication	Foundation	3
MC1203	News Reporting & Writing (English/Urdu)	Compulsory	3
MC1513	Introduction to Broadcast Journalism	Foundation	3
MCCS1002	Computer Skills	Compulsory	2

# Semester-II (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MCHU1013	English II	Compulsory	3
MCHU1032	Islamic Studies	Compulsory	2
MC1803	Introduction to Digital Media	Foundation	3
MC1703	International Relations	General	3
MC1223	Feature, Column & Editorial Writing	Major	3
MCEL1003	Foreign Language	Compulsory	3

### Semester-III (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MCEL2013	Speak Well	Compulsory	3
MC2713	Foundation of Public Relations	Foundation	3
MC2723	Fundamentals of Advertising	Foundation	3
MCHU2043	Introduction to Sociology	General	3
MCEL2023	Functional Urdu	General	3
MC2813	Storytelling in Digital Age	Major	3

### Semester-IV (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MC2603	Introduction to Film & Theater Studies	Foundation	3
MC2413	Development Communication	Foundation	3
MC2103	Media Laws and Ethics	Major	3
MCMT2003	Statistics	Compulsory	3
MC2213	TV Production (News & Current Affairs)	Foundation	3
MC2423	Mass Communication Theories	Major	3

# Scheme of Studies BS Media and Communication Studies

### Semester-V (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MC3833	Community Media	Major	3
MC3613	Documentary	Major	3
MC3003	Research Methods	Major	3
MC3503	Data Journalism	Foundation	3
MC3823	Contemporary World Media	Major	3
MC3303	Contemporary Issues in Politics & Economy of Pakistan	General	3

### Semester-VI (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
МСЗхх3	Specialization-I	Specialization	3
МСЗхх3	Specialization-II	Specialization	3
МСЗххЗ	Specialization-III	Specialization	3
<i>МСЗххЗ</i>	Specialization-IV	Specialization	3
MC3xx3	Specialization-V	Specialization	3

# Semester-VII (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MC4xx3	Specialization-VI	Specialization	3
MC4xx3	Specialization-VII	Specialization	3
MC4xx3	Specialization-VIII	Specialization	3
MC4xx3	Specialization-IX	Specialization	3
MC4xx3	Specialization-X	Specialization	3

### Semester-VIII (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MC4xx3	Specialization-XI	Specialization	3
MC4xx3	Specialization-XII	Specialization	3
MC4004	Internship and Report	Internship	4
MC4916	Project	Project	6

# M.Phil. Media and Communication Studies

# **Admission Requirements**

- (i) A minimum of 16 years of education leading to BS in relevant discipline
- (ii) Minimum 2.00/4.00 CGPA or 50% marks in annual system
- (iii) UCP Admission Test/HEC Approved Test

# Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- (i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate of M.Phil. Media and Communication Studies degree is required to complete 30 Cr. Hrs. as per the following detail:

	Area	Cr. Hrs.
a)	Courses	24
b)	Research Thesis/Project/Additional Courses	06
	Total	30

# a) Courses (24 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Approaches to Mass Communication Studies-1	MC5403	3
Communication Research Methods-1	MC5413	3
International Communication	MC5423	3
Philosophy of Social Sciences	MC5703	3
Approaches to Mass Communication-II	MC5433	3
Communication Research-II	MC5443	3
M.Phil. Seminar	MC5003	3

Course Title	Code	Cr. Hrs.
Public Relations & Advertising Practicum	MC5713	3
Visual Communication	MC5453	3
Research Methods	MC5013	3
Writing Techniques (Radio & TV With Project)	MC5203	3
Production Techniques (Radio & TV with Project)	MC5213	3
Film & Theater Studies (With Project)	MC5603	3
Tools and Skills of Production	MC5223	3
Research Debates	MC5023	3
Managing Information	MC5463	3
Tools and Skills of Social Sciences Research	MC5723	3
Dissertation Writing Workshop	MC5033	3
Research Practicum	MC5043	3
Media, Politics & Reporting Elections	MC5303	3

# b) Research Thesis

Course Title	Code	Cr. Hrs.
Research Thesis	MC6916	6
Thesis Continuation	MC6921	1

# CGPA Requirement

A student is required to earn a minimum of 2.50/4.00 CGPA on the completion of his/her degree requirements.

# **Program Duration**

This is nominally a two-year degree program comprising of 4 semesters. There will be a Fall and a Spring semester in each year. The maximum duration to complete M.Phil. Media and Communication Studies degree is 04 years.



# PhD Media and Communication Studies

The Department provides a vibrant and dynamic environment that encourages excellence in research specifically in the areas of Professional Journalism, Theater Film and Television, Digital Media and Advertising Relation. The PhD program aims at producing graduates who could meet the challenges of emerging international trends in Media and Communication Studies. To achieve this objective, we have a team of highly qualified and dedicated faculty members; a cohesive and carefully designed PhD program. A due emphasis has been placed on the applied and industrial aspects of the research. For this purpose, the Department has established a strong liaison with Research & Development organizations and industry.

# Admission Requirements

- (i) MS degree in relevant discipline
- (ii) Minimum CGPA 3.0/4.0 (Semester System) or 60% marks (Annual System)
- (iii) Admission Test/GAT Subject/HEC Test
- (iv) Interview

# Degree Requirements

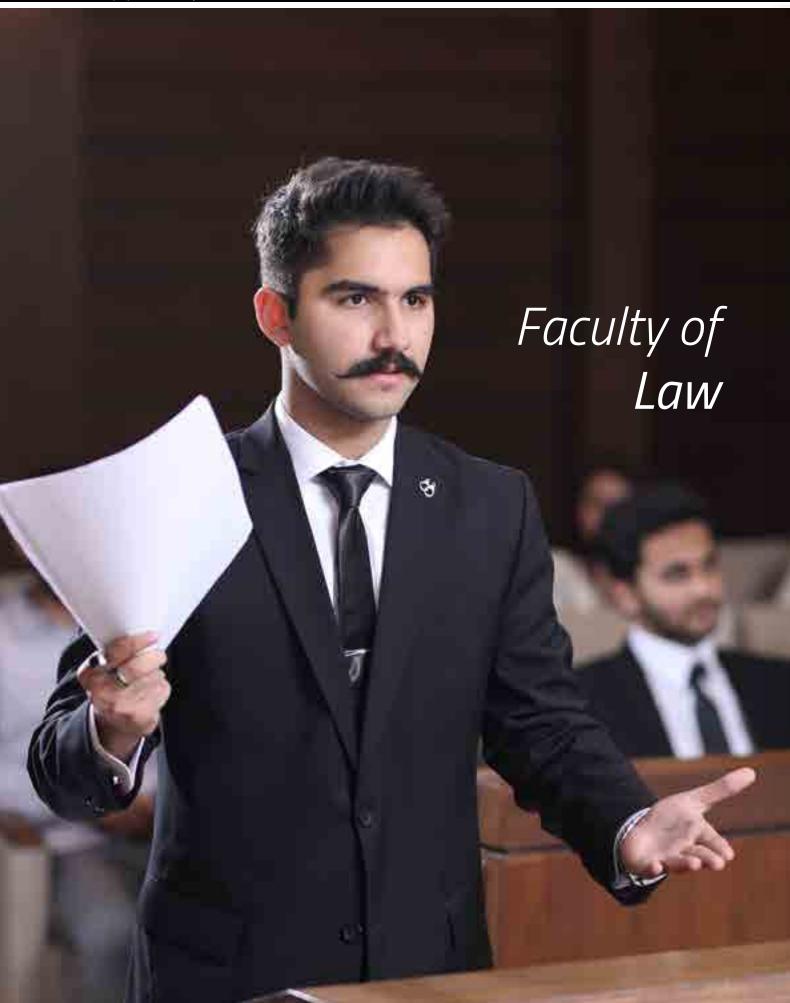
A PhD candidate shall be awarded degree on successful completion of the following requirements:

- (i) 18 Cr. Hrs. Course Work with minimum CGPA 3.00/4.00
- (ii) Comprehensive Examination (written and oral)
- (iii) 30 Cr. Hrs. Research Work
- (iv) Synopsis Defense
- (v) Dissertation Foreign Reviews
- (vi) Publication of at least one research paper in HEC approved journal.
- (vii) Dissertation Final Defense

**Note:** PhD scholars are required to comply with the following timeline:

Activity	Preferred Time	Maximum
Course Work	2 Semesters	3 Semesters
Comprehensive Exam	3 Semesters	4 Semesters
Synopsis Qualification	4 Semesters	6 Semesters
Thesis Submission	6 Semesters	14 Semesters (7 Years)







Dean

*In my estimation, three dimensions of a law student require necessary* sharpening. The first is the skillset comprised of critical observation, problem solving and effective representation. The second is the ethical credence with respect to resolve the ethical dilemmas. The third and the most effective is social empathy which expects that a lawyer should be able to empathize with the community being a part thereof. We, as Faculty of Law (FOL), university of central Punjab (UCP) work on all three dimensions of a law student.

For the first one we have devised critical-clinical learning model. Borrowing from Paulo Freire, we don't stuff the minds of our students like empty bank accounts, rather we make them learn experientially. John Dewey's experiential learning model has been improved further to be used in our regular classes. We try to make learning a twoway experience between a teacher and a learner instead of one-way teacherlearner practice. We make them observe, experience and then learn the concepts of law in its true context. Praxis is the essence of learning at UCP. The skills of observation and problem solving are improved in this way. For effective representation, argument developing, presenting and skills to persuade court are polished. In this sense, faculty of law at UCP is the only law institution in Pakistan using a well-developed teaching model to groom the future lawyers in line with the contemporary international trends and needs.

Towards ethical training of the students, FOL utilizes three platforms. The first is to engage students in arguments over multiple ethical dilemmas in the form of hypotheticals. The second is to invite some distinguished professional to discuss with students about resolving ethical questions in the real life. And the third is to give them in-class projects involving dilemmas. Students are required to prepare reports on the projects on the basis of data they collect in this regard.

Regarding third dimension, we have launched on-campus law clinic. Law clinic work in three areas, the first is to give free legal advice and help, not only to UCP family but to the community generally. The second is to support the students by doing training sessions involving practical skills like mooting, mock trials, mini trials, etc. The third is research and writings. Students work along with seasoned professionals to prepare briefs, advice, training sessions, and the activities supporting research and writings. Our Law Journal is in the offing to publish all this research and make it available for the community.

We believe that potential is already present in students. The only support they need is the warmth to thaw the ice of apathy cladding their talent. For that, we are trying sincerely to flicker the flam of empathy, ethics, compassion and competence in their hearts.

# Faculty Members



**Dr. Hadia Awan**PhD Peace & Conflict Studies (National Defence University, Islamabad)
LLM (University of London, London, UK)

MA Political Science, (University of the Punjab, Lahore) LLB (University of the Punjab, Lahore) BSc (University of the Punjab, Lahore) Professor/Dean-Faculty of Law



Mr. Salah-Ud-Din LLB (University of the Punjab, Lahore) BA (University of the Punjab, Lahore)

Professor of Practice



Ms. Shaista Anwar LLB (University of the Punjab, Lahore) BA (University of the Punjab, Lahore) Lecturer



Ms. Saba Shahzadi LLB (University of the Punjab, Lahore) BA (University of the Punjab, Lahore) Lecturer



Ms. Ammara Afzal Siddiqui LLM (International Girne American University, Cyprus) LLB (University of the Punjab, Lahore) BSc (University of the Punjab, Lahore) Lecturer



Ms. Freeha Khaled LLB (Punjab Law College, Lahore) BCOM (Punjab College of Commerce, Lahore) Lecturer



Ms. Sadia Hashmi MA Islamic Studies (University of the Punjab, Lahore) BA (Government College for Women, Sheikhupura) Lecturer

# LLB

# Admission Requirements

- (i) Intermediate or equivalent with minimum 45% marks.
- (ii) Must have passed the LAT (Law Admission Test) by HEC.

# Degree Requirements

Each candidate of LLB (Hons.) degree is required to complete 168 Cr. Hrs. with the minimum CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Core Courses	30
<i>b)</i>	General and Foundation Courses	24
c)	Major Courses	99
d)	Elective Courses	12
e)	Research Project	03
f)	Internship	03
	Total	168

# a) Core Courses (25 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
English I	LWHU1003	3
Pakistan Studies	LWHU1012	3
Introduction to Law	LW1003	3
Skill Development	LW1013	3
English II	LWHU1033	3
Islamic Studies/Ethics	LWHU1042	3
English III	LWHU2063	3
Internship	LW4003	3
Research Methods	LWHU5093	3
Moot Cases and Professional Ethics	LW5023	3

# b) General and Foundation Courses (24 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Sociology	LWHU1023	3
Fundamentals of Economics	LWEC1003	3
Principles of Political Science	LWHU1083	3
Legal System of Pakistan	LW1023	3
History (South Asia)	LWHU1053	3
Introduction to Logic & Reasoning	LWHU2073	3
Human Rights Law	LW2803	3
Introduction to Psychology	LWHU2083	3



# c) Major Courses (99 Cr. Hrs.)

c) Major Courses (99 Cr. Hrs.)		
Course Title	Code	Cr. Hrs.
Law of Torts I	LW1613	3
Islamic Jurisprudence I	LW2313	3
Law of Torts II	LW2623	3
Law of Contract I	LW2503	3
Constitutional Law I (UK)	LW2413	3
Constitutional Law II (US)	LW2423	3
Law of Contract II	LW2513	3
Islamic Jurisprudence II	LW2323	3
Jurisprudence I	LW3523	3
Constitutional Law III (Pakistan)	LW3433	3
Islamic Personal Law I	LW3333	3
Criminal Law I	LW3633	3
Law of Property	LW3203	3
Jurisprudence II	LW3533	3
Law of Business Organizations	LW3703	3
Islamic Personal Law II	LW3343	3
Criminal Law II	LW3643	3
Land Laws	LW3213	3
Public International Law I	LW4813	3
Constitutional Development in Pakistan	LW4443	3
Civil Procedure I	LW4823	3
Criminal Procedure I	LW4653	3
Law of Evidence I	LW4663	3
Legal Drafting I	LW4543	3
Public International Law II	LW4833	3
Equity and Specific Relief	LW4223	3
Civil Procedure II	LW4843	3
Criminal Procedure II	LW4673	3
Law of Evidence II	LW4683	3
Legal Drafting II	LW4553	3
Minor Acts	LW5563	3
Administrative Law	LW5693	3
Interpretation of Statutes & Legal Drafting	LW5453	3

# d) Elective Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Elective I	LW5xx3	3
Elective II	LW5xx3	3
Elective III	LW5xx3	3
Elective IV	LW5xx3	3

# List of Elective Courses

Course Title	Code	Cr. Hrs.
Alternate Dispute Resolution	LW5603	3
Banking Laws	LW5703	3
Conflict of Laws	LW5403	3
Consumer Protection Laws	LW5813	3
Custom and Tariff Laws	LW5713	3
e-Commerce Law	LW5723	3
Election Laws	LW5413	3
Environmental Laws	LW5103	3
Gender and Law	LW5823	3
Insurance laws	LW5733	3
Intellectual Property Laws	LW5203	3
International Economic Law	LW5743	3
International Humanitarian Law	LW5833	3
International Institutions	LW5753	3
International Trade Law	LW5763	3
Islamic Commercial Laws	LW5303	3
Labour Laws	LW5843	3
Law and Development	LW5113	3
Law and Energy	LW5123	3
Law and Society in Pakistan	LW5313	3
Local and Special Laws	LW5423	3
Media Laws	LW5433	3
Medical and Forensic Law	LW5443	3
Mergers and Acquisitions	LW5773	3
Islamic Legal Maxims	LW5323	3
Public Interest Litigation	LW5853	3

Securities Regulation	LW5523	3
Shipping and Admiralty Laws	LW5573	3
Taxation Laws	LW5463	3
Telecommunication Laws	LW5783	3

e) Research Project (03 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Research Project	LW5913	3

# f) Internship (LW4003)

The candidates are required to complete 03 Cr. Hrs. of internship of 10 to 12 weeks duration after Completion of 8th Semester and before 10th Semester (during Summer Vacations).

# g) Advocacy Skills

The candidates are required to complete the following 5 levels of mandatory advocacy skills, which will be credit as pass/ fail.

Course Title	Code	Cr. Hrs.
Advocacy Skills Level I	LW1000	0
Advocacy Skills Level II	LW2010	0
Advocacy Skills Level III	LW3020	0
Advocacy Skills Level IV	LW4030	0
Advocacy Skills Level V	LW5040	0
h) Research Project (03 Cr. Hrs.)		
Course Title	Code	Cr. Hrs.
Research Proiect	LW5913	3

### Community Service (LW3000)

Each student is required to complete 65 hours community work, usually after 8th semester which would be a prerequisite for the award of degree.

### **Program Duration**

This is a five-year degree program comprising of 10 semesters. The maximum duration to complete the LL.B (Hons) program is 7 years.

# Scheme of Studies LLB

### Semester I (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
LWHU1003	English-I	Core	3
LWHU1012	Pakistan Studies	Core	3
LWHU1023	Introduction to Sociology	General	3
LWEC1003	Fundamental of Economics	General	3
LW1003	Introduction to Law	Core	3
LW1013	Skill Development	Core	3

#### Semester II (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
LWHU1033	English II	Core	3
LWHU1042	Islamic Studies/Ethics	Core	3
LWHU1083	Principles of Political Science	General	3
LW1023	Legal System of Pakistan	General	3
LWHU1053	History (South Asia)	General	3
LW1613	Law of Torts I	Major	3
LW1000	Advocacy Skills Level I	Core	0

# Semester III (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
LWHU2063	English III	Core	3
LWHU2073	Introduction to Logic & Reasoning	General	3
LW2313	Islamic Jurisprudence l	Major	3
LW2623	Law of Torts II	Major	3
LW2503	Law of Contract I	Major	3
LW2413	Constitutional Law-I (UK)	Major	3

# Semester IV (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
LW2803	Human Rights Law	General	3
LW2423	Constitutional Law II (US)	Major	3
LW2513	Law of Contract II	Major	3
LW2323	Islamic Jurisprudence II	Major	3
LWHU2083	Introduction to Psychology	General	3
LW2010	Advocacy Skills Level II	Core	0

### Semester V (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
LW3523	Jurisprudence I	Major	3
LW3433	Constitutional Law III (Pakistan)	Major	3
LW3333	Islamic Personal Law I	Major	3
LW3633	Criminal Law I	Major	3
LW3203	Law of Property	Major	3

# Semester VI (15 Cr. Hrs.)

Course Code	Course Title	Cate	egory Cr. Hrs.
LW3533	Jurisprudence II	M	ajor 3
LW3703	Law of Business Organizations	M	ajor 3
LW3343	Islamic Personal Law II	M	ajor 3
LW3643	Criminal Law II	M	ajor 3
LW3213	Land Laws	M	ajor 3
LW3020	Advocacy Skills Level III	C	ore 0

# Semester VII (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
LW4813	Public International Law I	Major	3
LW4443	Constitutional Development in Pakistan	Major	3
LW4823	Civil Procedure I	Major	3
LW4653	Criminal Procedure I	Major	3
LW4663	Law of Evidence I	Major	3
LW4543	Legal Drafting I	Major	3

### Semester VIII (18 Cr. Hrs.)

Semester um (10 en 1113)			
Course Code	Course Title	Category	Cr. Hrs.
LW4833	Public International Law II	Major	3
LW4223	Equity and Specific Relief	Major	3
LW4843	Civil Procedure II	Major	3
LW4673	Criminal Procedure II	Major	3
LW4683	Law of Evidence II	Major	3
LW4553	Legal Drafting II	Major	3
LW4030	Advocacy Skills Level IV	Core	0

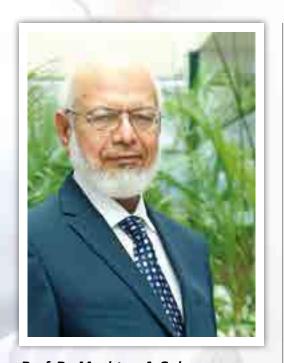
# Semester IX (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
LWHU5093	Research Methods	Core	3
LW5563	Minor Acts	Major	3
LW5xx3	Elective I	Elective	3
LW5xx3	Elective II	Elective	3
LW5023	Moot Cases and Professional Ethics	Core	3

# Semester X (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
LW5693	Administrative Law	Major	3
LW5453	Interpretation of Statutes & Legal Drafting	Major	3
LW5913	Research Project	Project	3
LW5xx3	Elective III	Elective	3
LW5xx3	Elective IV	Elective	3
LW5040	Advocacy Skills Level V	Core	0





**Prof. Dr. Mushtaq A. Saleem**Dean

I, being Dean Faculty of Life Sciences (FLS), would like to say that if you are thinking to serve your country as Life Saver, then certainly you are welcome to join FLS at UCP. First reason is that this century is considered as century of Life Sciences and here you will be in safe hands. I may quote some facts about FLS as under:

- FLS is offering BS in Biochemistry, Biotechnology, Microbiology and Food Science and Technology. MS in Biochemistry, Biotechnology and Microbiology. PhD in Biochemistry and Microbiology.
- We have established well equipped labs with required equipment which is a pre-requisite for advanced and globally publishable research in the above fields.
- We have more than 80% PhD teachers and all of them possess enormous teaching and research experience.
- There are large number of latest Books and International Journals in UCP Library to facilitate teachers and students.
- FLS has developed local and foreign linkages with Universities /
  Research Organizations such as University of Edinburgh UK; Ummul-Qura university Makkah KSA; King Abdul Aziz University, Jeddah,
  KSA; Institute for Food Science and Technology, Mashhad, Iran;
  Lincoln Hospital NHS Trust, UK; Manchester Metropolitan University,
  UK; University of Newcastle upon Tyne UK; University of Oxford, UK
  etc. for collaborative advanced research by PhD Scholars.
- FLS organizes International and National Symposia / Seminars / Workshops / Lectures on routine basis for better exposure of students and to enhance their ability to think globally and act nationally.
- FLS considers research as most important component and has achieved a milestone by publishing 115 research articles in HEC recognized IF Journals and International Conferences. Thus, UCP Directorate of Research has declared FLS as one of the most productive Faculty of the University in the last two consecutive years. With the Grace of Almighty Allah, we expect to retain this position in 2020 Insha Allah.

Keeping in view the above facts and increasing demand of Life Scientists in Public and Private Sectors in this country and abroad, I would like to add that bright future is waiting for you, my dear students. Wish you best of luck and thank you so much



**Dr. Muhammad Afzal**HoD

# Message of HOD Biochemistry

Welcome to Biochemistry at University of Central Punjab Lahore. The Department of Biochemistry is a dynamic Department and our Goal is to provide quality education to the youth of our nation in a stimulating and conducive learning environment by equipping them with the intellectual and technological tools necessary to meet the challenges of the future. Our goal for undergraduate and graduate students is to give them a high-quality education about the subject matter of Biochemistry in different area like Genomics, Transcriptomic, Proteomics and Clinical Biochemistry. Each of our faculty members is ready and willing to work in their research specialty with capable students on individual research projects. We strive to ensure that all our students have a strong education with team and leadership skills, involvement in student activities, and the practical background of co-op and internship experience. We believe that emphasizing these areas will make our students well qualified to take leadership roles in the future. We also have a strong post graduate program in Biochemistry to cope the Challenges of the future research. All graduate students are also expected to publish their research in relevant peer reviewed Biochemistry Journals and high level conferences. Whether you are a current or former student, a potential student or a visitor, please feel free to contact or visit us. Again, welcome to the Department.



**Dr. Javed Iqbal**HoD

# Message of HOD Biotechnology

It is a great privilege to welcome you to the Department of Biotechnology. We offer degree programs in BS, M.Sc. and MS in rapidly developing subject of Biotechnology. Department has subject competent and experienced PhD Faculty through a vision to be recognized as a true Academic and Research Faculty of international repute and to offer cutting edge interdisciplinary courses in Biotechnology and allied disciplines. The Faculty has ever since demonstrated an unfailing commitment towards research and man-power development in frontier areas of Biotechnology.

# Message of HOD Food Science & Technology

It is an honor and immense pleasure with great responsibility that I take the role as Head of Department of Food Science and Technology. The Food Industry in Pakistan is the 2nd largest industry after Textile and becoming Number 1st very soon. UCP's Food Science and Technology Program is a multidisciplinary domain where you will learn chemistry and microbiology of Food, as well as its nutritional and sensory properties, and how it is engineered and processed for consumption. Our department is flourished with foreign qualified, young and committed faculty members who have international exposure and believe on the career and character building of the students. The Food Science provides excellent opportunities for everyone to contribute to a vital sector of society whose demands are on the rise and where job prospectus is excellent. The current trend towards a merger between food and pharmaceutical industries to produce the next generation of new food products such as functional food and nutraceuticals is the biggest challenge facing the Food Science today. You can be part of it.



**Dr. Raza Hussain** HoD

# Message of Incharge of Microbiology

It is my great pleasure and privilege to take on the role of Incharge of Department of Microbiology. The Department has a strong commitment to excellence in both teaching and research at undergraduate and graduate level in the areas of Bacteriology, Virology and Immunology. The Faculty Members are very active and successful in research, bringing the latest knowledge to their lectures and practical lab classes. The field of Microbiology is very exciting as it provides the opportunity to address many of the grand challenges of world like the current pandemic of COVID-19. Through basic and applied research programs, Department of Microbiology has been able to make a substantial contribution towards addressing the microbe related health issues of human, animal and plant, food safety as well as improving water quality and other environmental problems. We anticipate even greater success in the future for our dear students.



**Dr. Aatif Amin** Incharge

# Faculty Members



# Department of Microbiology

#### Dr. Mushtaq Ahmed Saleem

Post-Doctorate Zoology, (University of Newcastle, Newcastle Upon Tyne, UK) PhD Zoology, (University of the Punjab, Lahore) MSc Applied Entomology, (University Newcastle, Newcastle Upon Tyne, UK) BSc (Hons.) Agriculture Entomology, (University of Agriculture, Faisalabad) Professor/Dean-Faculty of Life Sciences



### Dr. Basit Zeeshan

PhD Microbiology & Immunology, (Nanjing Agriculture University, CHINA) MPhil Microbiology, (Quaid-e-Azam University, Islamabad) DVM Veterinary Sciences, (Gomal University, Dera Ismail Khan) Associate Professor



#### Dr. Arslan Sarwar

PhD Microbiology, (University of Maine, USA)
PhD Microbiology, (University of Santiago de Compostela, Spain)
MS Microbiology & Molecular Genetics, (University of the Punjab, Lahore)
BS Microbiology, (University of Veterinary & Animal Sciences, Lahore)
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PhD Microbiology & Molecular Genetics, (University of the Punjab, Lahore) MPhil Microbiology & Molecular Genetics, (University of the Punjab, Lahore) MSc Microbiology & Molecular Genetics, (University of the Punjab, Lahore) Assistant Professor



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PhD Virology & Immunology, (ASAB, National University of Sciences & Technology, Islamabad) M.Phil Molecular Biology/Biochemistry, (Quaid-e-Azam University, Islamabad) MSc Molecular Biology/Biochemistry, (Quaid-e-Azam University, Islamabad) Assistant Professor



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PhD Microbiology, (University of Veterinary and Animal Sciences, Lahore) MPhil Microbiology, (University of Veterinary and Animal Sciences, Lahore) BSc (Hons) Microbiology, (University of Veterinary and Animal Sciences, Lahore) Assistant Professor



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PhD Microbiology, (Quaid-e-Azam University, Islamabad) MPhil Microbiology, (Quaid-e-Azam University, Islamabad) MSc Microbiology, (Quaid-e-Azam University, Islamabad) Lecturer



Ms. Saba Kabir MPhil Microbiology, (Govt College University, Faisalabad) BSc (Hons.) Microbiology, (University of Health Sciences, Lahore)



Department of Biotechnology



PhD Biotechnology, (PIEAS, Islamabad) MSc (Hons.) Agriculture Plant Breeding & Genetics, (University of Agriculture, Faisalabad) BSc (Hons.) Agriculture Plant Breeding & Genetics, (University of Agriculture, Faisalabad) Associate Professor/HOD-Biotechnology



Ms. Hira Mubeen

Dr. Javaid Iqbal

M.Phil Biotechnology, (National Institute for Biotechnology & Genetic Engineering, Faisalabad) BS (Hons.) Bioinformatics, (Government College University, Faisalabad) Assistant Professor



Dr. Muhammad Naveed

PhD Genomics & Bioinformatics, (Quaid-e-Azam University, Islamabad) Pre-Doc Bioinformatics, (Ghent University, Belgium) MPhil Cell & Molecular Biology, (Quaid-e-Azam University, Islamabad) MSc Biochemistry, (University of Arid Agriculture, Rawalpindi) Assistant Professor



Dr. Asma Zafar

PhD Biotechnology, (Government College University, Lahore) M.Phil Biotechnology, (Government College University, Lahore) MSc Botany, (Government College University, Lahore) Assistant Professor



Dr. Zia ur Rehman

PhD Molecular Biology, (University of the Punjab, Lahore) MSc Biochemistry, (University of Agriculture, Faisalabad) Assistant Professor



Ms. Izzah Shahid

M.Phil Biotechnology, (National Institute for Biotechnology & Genetic Engineering, Faisalabad) BS (Hons.) Biotechnology, (Government College University, Lahore) Lecturer



Ms. Ammara Masood

M.Phil Biotechnology, (National Institute for Biotechnology & Genetic Engineering, Faisalabad) BS (Hons.) Bioinformatics, (Government College University, Faisalabad)



Ms. Sadia Zia

M.Phil Molecular Biology & Biotechnology, (University of Veterinary & Animal Sciences, Lahore) BS (Hons.) Biotechnology, (Forman Christian College University, Lahore) Lecturer



Ms. Manam Walait

M.Phil Biotechnology, (Govt College University, Lahore) BSc (Hons). Biotechnology, (Govt College University, Lahore) Lecturer



Ms. Huda Rehman Mir

MPhil Biotechnology, (Forman Christian College University, Lahore) BS (Hons.) Biotechnology, (Kinnaird College Women, Lahore) Lecturer



Mr. Muhammad Awais

MPhil Molecular Biology & Biotechnology, (University of Veterinary and Animal Sciences, Lahore) BS Biotechnology & Bioinformatics, (University of Veterinary and Animal Sciences, Lahore) Lecturer





# Department of Biochemistry

### Dr. Muhammad Afzal

PhD Biochemistry, (University of Agriculture, Faisalabad) M.Phil Biochemistry, (University of Agriculture, Faisalabad) MSc Biochemistry, (University of Agriculture, Faisalabad) Associate Professor/HOD-Biochemistry



#### Dr. Tanzeela Riaz

PhD Biochemistry, (University of the Punjab, Lahore) MS Zoology, (University of the Punjab, Lahore) BS (Hons.) Zoology, (University of the Punjab, Lahore) Assistant Professor



#### Dr. Amina Arif

PhD Biochemistry & Molecular biology, (University of the Punjab, Lahore) M.Phil Biochemistry, (University of the Punjab, Lahore) MSc Organic Chemistry, (University of the Punjab, Lahore) Assistant Professor



#### Dr. Salma Batool

PhD Biochemistry, (PMAS Arid Agriculture University, Rawalpindi) M.Phil Biochemistry, (PMAS Arid Agriculture University, Rawalpindi) MSc Biochemistry, (PMAS Arid Agriculture University, Rawalpindi) Assistant Professor



#### Dr. Smumera Zaib

PhD Biochemistry (Hazara University, Mansehra) M.Phil Biochemistry (Hazara University, Mansehra) BSc (Hons.) Biochemistry (Hazara University, Mansehra) Assistant Professor



#### Ms. Aleena Qadeer

MS Biochemistry, (University Management Technology, Lahore) BS Biochemistry & Molecular Biology, (University of Gujrat, Gujrat) Lecturer



# Department of Food Science and Technology

#### Dr. Raza Hussain

Post Doctorate Food Science, (McGill University, Canada)

Post Doctorate Agriculture & Agri-Food Canada Research Center (AAFC),

Lennoxville, Quebec, Canada

Post Doctorate Food Science (Laval University, Quebec, Canada)

Post Doctorate Food Science, (Laval University, Quebec, Canada)
PhD Food Processing & Biotechnology, (University of Lorraine, France)
MSc (Hons.) Food Science & Technology, (University of Agriculture, Faisalabad)
BSc (Hons.) Food Science & Technology, (University of Agriculture, Faisalabad)
Associate Professor/HOD-Food Science & Technology



#### Dr. Kanza Aziz Awan

PhD Food Technology, (University of Agriculture, Faisalabad)
MSc (Hons.) Food Technology, (University of Agriculture, Faisalabad)
BSc (Hons.) Food Science & Technology, (University of Agriculture, Faisalabad)
Assistant Professor



#### Dr. Sanabil Yaqoob

PhD Engineering (Food Science), (Jilin Agriculture University, China)
MSc (Hons.) Food Technology, (University of Agriculture, Faisalabad)
PGD Food Safety & Control, (University of Agriculture, Faisalabad)
BSc (Hons.) Food Science & Technology, (University of Agriculture, Faisalabad)
Assistant Professor



Ms. Amal Shaukat

MSc (Hons.) Food & Nutrition, (University of Sargodha, Sargodha) BSc (Hons.) Food Science & Technology, (University of Sargodha, Sargodha) Lecturer



#### Mr. Waleed Sultan

MSc (Hons.) Food Technology, (University of Agriculture, Faisalabad) BS (Hons.) Food Science & Nutrition, (Government College University, Faisalabad) Lecturer

# **BS Microbiology**

# Admission Requirements

- (i) Higher Secondary School Certificate (FSc Pre-Medical) or Equivalent with Physics, Chemistry and Biology securing at least 45% marks in aggregate. In case of foreign qualification, equivalence from IBCC will be required.
- (ii) UCP admission test or HEC approved test.

# Degree Requirements

Each candidate for the BS Microbiology degree is required to successfully earn 132 Cr. Hrs. with the CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Microbiology Foundation Courses	31
<i>b)</i>	Microbiology General Courses	24
c)	Microbiology Interdepartmental Courses	21
e)	Microbiology Core Courses	38
f)	Microbiology Elective Depth Courses	12
g)	Project	06

Total 132

# a) Microbiology Foundation Courses (31 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Fundamentals of Microbiology-I	MB1603	3
Fundamentals of Microbiology-II	MB1613	3
Intro. to Medical Microbiology	MB2624	4
General Immunology	MB2703	3
Microbial Taxonomy	MB2713	3
General Virology	MB2723	3
Cell Biology	MB2523	3
Mycology	MB3113	3
Research Methodology	MB3003	3
Biosafety & Risk Management	MB3823	3





### b) Microbiology General Courses (24 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Human Physiology	MB2403	3
Food Microbiology	MB3683	3
Biochemistry-I	MB1203	3
Sociology	MBHU1053	3
Biochemistry-II	MB2213	3
General Genetics	MB2103	3
Ecology & Ecosystem	MB2803	3
Biodiversity of Plants & Fungi	MB2813	3

# c) Microbiology Interdepartmental Courses (21 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
English I	MBHU1013	3
Pakistan Studies	MBHU1023	3
Islamic Studies	MBHU1033	3
Computer Application	MBCS1013	3
English-II	MBHU1043	3
Biostatistics	MBMT1013	3
Mathematics	MBMT2023	3

# d) Microbiology Core Courses (38 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Pharmaceutical Microbiology	MB3643	3
Microbial Anatomy & Physiology	MB3423	3
Fresh Water Microbiology	MB3653	3
Bacterial Genetics	MB3124	4
Clinical Bacteriology	MB3734	4
Soil Microbiology	MB3663	3
Epidemiology, Public Health & Bioethics	MB3743	3
Environmental Biotechnology	MB4303	3
Molecular Mechanism of Antimicrobial Agent	MB4504	4
Genetic Engineering	MB4134	4
Medical Virology	MB4754	4

# e) Microbiology Elective Depth Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Applied Microbial Technology	MB4513	3
Cell & Tissue Culture	MB4673	3
Industrial Microbiology	MB4763	3
Nano-Biotechnology	MB4323	3

### f) Project (06 Cr. Hrs.)

After the completion of 90 Cr. Hrs., the students are required to demonstrate their practical skills in the field of Microbiology by designing and implementing a research project worth 6 Cr. Hrs. The project shall be completed in two parts as given below:

Course Title	Code	Cr. Hrs.
Research Project I	MB4903	3
Research Project II	MB4913	3

# Community Work (MB3000)

Each student is required to complete 65 hours of community work, usually after 4th semester which would be a prerequisite for the award of degree.

# **Program Duration**

This is a four-year degree program comprising of 8 semesters. There will be a Fall and a Spring semester in each year. The summer semester will be utilized for internship or deficiency courses. The maximum duration to complete BS Microbiology degree is 7 years.

# Scheme of Studies BS Microbiology

# Semester-I (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MBHU1013	English I	Inter Department	3
MBHU1023	Pakistan Studies	Inter Department	3
MBHU1033	Islamic Studies	Inter Department	3
MBCS1013	Computer Application	Inter Department	3
MB1603	Fundamentals of Microbiology-I	MB Foundation	3

### Semester-II (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MBHU1043	English-II	Inter Department	3
MBMT1013	Biostatistics	Inter Department	3
MB1203	Biochemistry-l	MB General	3
MBHU1053	Sociology	MB General	3
MB1613	Fundamentals of Microbiology-II	MB Foundation	3

### Semester-III (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MBMT2023	Mathematics	Inter Department	3
MB2213	Biochemistry-II	MB General	3
MB2103	General Genetics	MB General	3
MB2624	Intro. to Medical Microbiology	MB Foundation	4
MB2703	General Immunology	MB Foundation	3

# Semester-IV (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MB2803	Ecology & Ecosystem	MB General	3
MB2813	Biodiversity of Plants & Fungi	MB General	3
MB2713	Microbial Taxonomy	MB Foundation	3
MB2723	General Virology	MB Foundation	3
MB2523	Cell Biology	MB Foundation	3
MB2403	Human Physiology	MB General	3

# Scheme of Studies BS Microbiology

# Semester-V (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MB3633	Mycology	MB Foundation	3
MB3903	Research Methodology	MB Foundation	3
MB3423	Microbial Anatomy & Physiology	MB Core	3
MB3653	Fresh Water Microbiology	MB Core	3
MB3683	Food Microbiology	MB General	3
MB3743	Epidemiology, Public Health & Bioethics	MB Core	3

# Semester-VI (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MB3823	Biosafety & Risk Management	MB Foundation	3
MB3124	Bacterial Genetics	MB Core	4
MB3734	Clinical Bacteriology	MB Core	4
MB3663	Soil Microbiology	MB Core	3
MB3643	Pharmaceutical Microbiology	MB Core	3

# Semester-VII (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MB4303	Environmental Biotechnology	MB Core	3
MB4504	Molecular Mechanism of Antimicrobial Agent	MB Core	4
MB4513	Applied Microbial Technology	MB Elective	3
MB4673	Cell & Tissue Culture	MB Elective	3
MB4903	Research Project-l	Research Project	3

# Semester-VIII (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MB4134	Genetic Engineering	MB Core	4
MB4754	Medical Virology	MB Core	4
MB4763	Industrial Microbiology	MB Elective	3
MB4323	Nano-Biotechnology	MB Elective	3
MB4913	Research Project-II	Research Project	3

# MS Microbiology

# Admission Requirements

- (i) A minimum of 16 years of education leading to BS degree in relevant discipline.
- (ii) Minimum 2.00/4.00 CGPA or 50% marks in annual system
- (iii) Admission Test/HEC Approved Test.

# Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- (i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate for the MS Microbiology degree is required to successfully earn 30 Cr. Hrs. as per the following detail:

	Area		Cr. Hrs.
a)	Course Work		24
b)	Thesis/Additional Courses		06
		Total	30

### a) Graduate Courses

Course Title	Code	Cr. Hrs.
Molecular Microbial Genetics	MB5103	3
Industrial Microbiology	MB5603	3
Frontiers in Microbiology	MB5613	3
Food Microbiology	MB5623	3
Microbial Biochemistry	MB5203	3
Microbial Biotechnology	MB5303	3
Advances in Microbiology	MB5633	3
Advanced Techniques in Microbiology	MB5643	3
Advanced Medical Microbiology	MB5653	3
Biostatistics	MBMT5003	3
Advanced Virology	MB5703	3
Advanced Immunology	MB5713	3
Microbial Genetics	MB5113	3
Bioinformatics	MB5503	3

### b) Research Thesis

Course Title	Code	Cr. Hrs.
Research Thesis	MB6916	6
Thesis Continuation	MB6921	1

# CGPA Requirement

A student is required to earn a minimum of 2.50/4.00 CGPA on the completion of his/her degree requirements

# **Program Duration**

This is nominally a two-year degree program comprising of 4 semesters. There will be a Fall and a Spring semester in each year. The maximum duration to complete MS Microbiology degree is 04 years.



# PhD Microbiology

The program offers a dynamic research environment to excel our students in the field of Microbiology through Highly Qualified HEC Approved Supervisors. We furnish platform to work with our Collaborative Research Partners in different universities such as University of Edinburgh, UK and King Abdul Aziz University Saudi Arabia etc. Our PhD Scholars would work in unique environment to acquire advanced / applied training in the scientific study of microbes and their impact on human being. We undertake research work in the fields of Bacteriology (Generation of Biofuels, Bioremediation, Microbial Ecology, and Antimicrobials for Treatment of Disease), Immunology, Microbiome and Virome Analyses. We encourage our PhD Scholars to produce quality research to be published in HEC Approved Impact Factor Journals and present in International Conferences. Our graduates are securing bright careers in different universities, research organizations and industries in Pakistan and abroad.

# Admission Requirements

- MS/MPhil degree in relevant discipline
- Minimum CGPA 3.00/4.00 (Semester System) or 60% marks (Annual System)
- (iii) Admission Test/HEC Approved Test
- (iv) Interview

# Degree Requirements

A PhD candidate shall be awarded degree on successful completion of the following requirements:

- 18 Cr. Hrs. Course Work with minimum CGPA 3.00/4.00
- Comprehensive Examination (written and oral)
- (iii) Synopsis Defense
- (iv) 30 Cr. Hrs. Research Work
- (v) Publication of at least one research paper in HEC approved journal
- (vi) Dissertation Foreign Reviews
- (vii) Dissertation Final Defense

Note: PhD scholars are required to comply with the following timeline:

Activity	Preferred Time	Maximum
Course Work	2 Semesters	3 Semesters
Comprehensive Exam	3 Semesters	4 Semesters
Synopsis Qualification	4 Semesters	6 Semesters
Thesis Submission	6 Semesters	14 Semesters (7 years)



# BS Biotechnology

# Admission Requirements

- (i) Higher Secondary School Certificate (FSc Pre-Medical) or Equivalent with Physics, Chemistry and Biology securing at least 45% marks in aggregate. In case of foreign qualification, equivalence from IBCC will be required.
- (ii) UCP admission test or HEC approved test.

# Degree Requirements

Each candidate for the BS Biotechnology degree is required to successfully earn 136 Cr. Hrs. with the CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Biotechnology Foundation Courses	36
b)	Biotechnology General Courses	24
c)	Biotechnology Interdepartmental Courses	26
d)	Biotechnology Core Courses	32
e)	Biotechnology Elective Depth Courses	12
f)	Industrial Internship	00
g)	Research Project/Internship/Review Paper	06
	Total	136

## a) Biotechnology Foundation Courses (36 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Biotechnology	BT1303	3
Biochemistry-I	BT1233	3
Biochemistry-II	BT2243	3
Cell Biology	BT2603	3
Classical Genetics	BT2103	3
Probability & Biostatistics	BTMT2023	3
Analytical Chemistry & Instrumentation	BT2253	3
Molecular Biology	BT2503	3
Immunology	BT3703	3
Methods in Molecular Biology	BT3513	3
Genetic Resources & Conservation	BT3113	3
Microbial Biotechnology	BT3323	3

### b) Biotechnology General Courses (24 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Physical Chemistry	BT1203	3
Inorganic Chemistry	BT1213	3
Organic Chemistry	BT1223	3
Ecology, Biodiversity & Evolution-I	BT1803	3
Ecology, Biodiversity & Evolution-II	BT2813	3
Biological Physics	BT2403	3
Sociology	BTMG2003	3
Marketing & Management	BTMG2013	3

# c) Biotechnology Interdepartmental Courses (26 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
English I	BTHU1003	3
Pakistan Studies	BTHU1013	3
Islamic studies	BTHU1023	3
Introduction to Computer Science	BTCS1003	3
English-II	BTHU1033	3
Mathematics	BTMT1003	3
English-III (Writing & Comp)	BTHU2043	3
Biomathematics	BTMT2013	3
Biosafety & Bioethics	BT4032	2

### d) Biotechnology Core Courses (32 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Principles of Biochemical Engineering	BT3263	3
Agriculture Biotechnology	BT3313	3
Principles of Biochemical Engineering	BT3273	3
Health Biotechnology	BT3333	3
Environmental Biotechnology	BT3343	3
Food Biotechnology	BT3353	3
Genomics & Proteomics	BT4123	3

Course Title	Code	Cr. Hrs.
Entrepreneurship in Biotechnology	BT4002	2
Bioinformatics	BT4823	3
Industrial Biotechnology	BT4373	3
Research Methodology & Skill Enhancement	BT4023	3

# e) Biotechnology Elective Depth Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Nano-Biotechnology	BT3363	3
Cell & Tissue Culture	BT4623	3
Virology	BT4713	3
Fermentation Biotechnology	BT4383	3

# f) Research Project (06 Cr. Hrs.)

After the completion of 90 Cr. Hrs., the students are required to demonstrate their practical skills in the field of Biotechnology by designing and implementing a research project worth 6 Cr. Hrs. The project shall be completed in two parts as given below:

Course Title	Code	Cr. Hrs.
Research Project/Internship/ Review Paper I	BT4903	3
Research Project/Internship/ Review Paper II	BT4913	3

# Community Work (BT3000)

Each student is required to complete 65 hours of community work, usually after 4th semester which would be a prerequisite for the award of degree.

# **Program Duration**

This is a four-year degree program comprising of 8 semesters. There will be a Fall and a Spring semester in each year. The summer semester will be utilized for internship or deficiency courses. The maximum duration to complete BS Biotechnology degree is 7 years.



# Scheme of Studies BS Biotechnology

# Semester-I (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BTHU1003	English I	Inter. Dept.	3
BTHU1013	Pakistan Studies	Inter. Dept.	3
BTHU1023	Islamic studies	Inter. Dept.	3
BTCS1003	Introduction to Computer Science	Inter. Dept.	3
BT1203	Physical Chemistry	BT General	3
BT1303	Introduction to Biotechnology	BT Foundation	3

# Semester-II (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BTHU1033	English-II	Inter. Dept.	3
BTMT1003	Mathematics	Inter. Dept.	3
BT1213	Inorganic Chemistry	BT General	3
BT1223	Organic Chemistry	BT General	3
BT1803	Ecology, Biodiversity & EvalI	BT General	3
BT1233	Biochemistry-l	BT Foundation	3

# Semester-III (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BTHU2043	English-III (Writing & Comp)	Inter. Dept.	3
BTMT2013	Biomathematics	Inter. Dept.	3
BT2813	Ecology, Biodiversity & EvalII	BT General	3
BT2403	Biological Physics	BT General	3
BT2243	Biochemistry-II	BT Foundation	3
BT2603	Cell Biology	BT Foundation	3

# Semester-IV (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BTMG2003	Sociology	BT General	3
BTMG2013	Marketing & Management	BT General	3
BT2103	Classical Genetics	BT Foundation	3
BTMT2023	Probability & Biostatistics	BT Foundation	3
BT2253	Analytical Chemistry & Instrumentation	BT Foundation	3
BT2503	Molecular Biology	BT Foundation	3

# Scheme of Studies BS Biotechnology

# Semester-V (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BT3263	Principles of Biochemical Engineering	BT Core	3
BT3313	Agriculture Biotechnology	BT Core	3
BT3273	Microbiology	BT Core	3
BT3703	Immunology	BT Foundation	3
BT3513	Methods in Molecular Biology	BT Foundation	3

# Semester-VI (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BT3113	Genetic Resources & Conservation	BT Foundation	3
BT3323	Microbial Biotechnology	BT Foundation	3
BT3333	Health Biotechnology	BT Core	3
BT3343	Environmental Biotechnology	BT Core	3
BT3353	Food Biotechnology	BT Core	3
BT3363	Nano-Biotechnology	BT Elective	3

# Semester-VII (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BT4123	Genomics & Proteomics	BT Core	3
BT4002	Entrepreneurship in Biotechnology	BT Core	2
BT4823	Bioinformatics	BT Core	3
BT4373	Industrial Biotechnology	BT Core	3
BT4623	Cell & Tissue Culture	BT Elective	3
BT4903	Research Project-I	Project	3

# Semester-VIII (14 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BT4713	Virology	BT Elective	3
BT4383	Fermentation Biotechnology	BT Elective	3
BT4023	Research Methodology & Skill Enhancement	BT Core	3
BT4032	Biosafety & Bioethics	Inter. Dept.	2
BT4913	Research Project-II	Project	3

# MS Biotechnology

# Admission Requirements

- (i) A minimum of 16 years of education leading to BS Degree in relevant discipline.
- (ii) Minimum 2.00/4.00 CGPA or 50% marks in annual system.
- (iii) Admission Test/HEC Approved Test.

# Degree Requirements

A student admitted in MS program will have to complete the degree requirements by following any one of the options given below:

- (i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate for the MS Biotechnology degree is required to successfully earn 30 Cr. Hrs. as per the following detail:

	Area	Cr. Hrs.
a)	Course Work	24
b)	Thesis/Project/Additional Courses	06

Total 30

#### a) Graduate Courses

Course Title	Code	Cr. Hrs.
Advances in Biotechnology	BT5303	3
Biostatistics	BT5003	3
Recombinant DNA and Applied GMO Technology	BT5103	3
Stem Cell Technology & Cell Culture	BT5113	3
Advanced Immunology	BT5703	3
Advances in Agriculture Biotechnology	BT5123	3
Bioinformatics	BT5803	3

Course Title	Code	Cr. Hrs.
Nano-Biotechnology	BT5313	3
Microbial Biotechnology & Immunology	BT5703	3
Health Biotechnology	BT5333	3
Advance Cell & Tissue Culture	BT5603	3
Genomics, Transcriptomics & Proteomics	BT5133	3
Recombinant DNA Technology	BT5143	3
Food Biotechnology	BT5343	3
Agricultural Biotechnology	BT5353	3
Advance Biochemistry	BT5203	3
Introduction to Molecular Biology & Biotechnology	BT5613	3
Genetic Resources & Conservation	BT5153	3
Industrial Biotechnology	BT5363	3
Environmental Biology	BT5013	3
Advances in Biotechnology	BT5373	3

### b) Research Thesis

Course Title	Code	Cr. Hrs.
Research Thesis	BT6916	6
Thesis Continuation	BT6921	1

# CGPA Requirement

A student is required to earn a minimum of 2.50/4.00 CGPA on the completion of his/her degree requirements.

# **Program Duration**

MS Biotechnology is nominally a two-year degree program comprising of 4 semesters. There will be a Fall and a Spring semester in each year. The maximum duration to complete MS Biotechnology degree is 04 years.

# BS Biochemistry

## Admission Requirements

- (i) Higher Secondary School Certificate (FSc Pre-Medical) or Equivalent with Physics, Chemistry and Biology securing at least 45% marks in aggregate. In case of foreign qualification, equivalence from IBCC will be required.
- (ii) UCP admission test or HEC approved test.

## Degree Requirements

Each candidate for the BS Biochemistry degree is required to successfully complete 134 Cr. Hrs. with the CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Biochemistry Foundation Courses	21
<i>b)</i>	Biochemistry General Courses	27
c)	Biochemistry Interdepartmental Courses	24
d) Biochemistry Core Courses		41
e) Biochemistry Elective Depth Courses		12
f)	Research Project	06
	Total	134

## a) Biochemistry Foundation Courses (21 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Biochemistry	BC1213	3
Carbohydrates and Lipids	BC1323	3
Amino Acid & Proteins	BC2343	3
Human Physiology	BC2423	3
Enzymes	BC2533	3
Molecular Biology	BC2543	3
Metabolism	BC2223	3

### b) Biochemistry General Courses (27 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Social Science I	BCHU1043	3
Social Science II	BCHU1063	3
Marketing and Management	BCMG1013	3
Organic Chemistry	BC1313	3





Course Title	Code	Cr. Hrs.
Inorganic Chemistry	BC1333	3
Physical Chemistry	BC2413	3
Biophysics	BC2613	3
Genetics	BC2513	3
Microbiology	BC2623	3

### c) Biochemistry Interdepartmental Courses (24 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
English I	BCHU1013	3
Pakistan Studies	BCHU2023	3
Islamic studies	BCHU1033	3
Introduction to Computer Science	BCCS1013	3
English-II	BCHU1053	3
Biostatistics	BCMT1013	3
English-III	BCHU2073	3
Mathematics	BCMT2023	3

### d) Biochemistry Core Courses (44 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Cell Biology	BC3633	3
Biochemistry Techniques	BC3233	3
Biosafety & Ethics	BC3013	3
Plant Biochemistry	BC3243	3
Clinical Biochemistry	BC3253	3
Bio-Membranes & Cell Signaling	BC3563	3
Bioenergetics	BC3572	2
Nutritional Biochemistry	BC3263	3
Bioinformatics	BC3023	3
Industrial Biochemistry	BC4273	3
Biotechnology	BC4033	3

Course Title	Code	Cr. Hrs.
Immunology	BC4653	3
Current Trends in Biochemistry	BC4283	3
Environmental Biochemistry	BC4293	3
Biochemistry and Entrepreneurship	BC4203	3

### e) Biochemistry Elective Depth Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
General Virology	BC3643	3
Cell & Tissue Culture	BC3553	3
Fermentation Biotechnology	BC3583	3
Toxicology	BC4663	3

### f) Research Project (06 Cr. Hrs.)

After the completion of 90 Cr. Hrs., the students are required to demonstrate their practical skills in the field of Biochemistry by designing and implementing a research project worth 6 Cr. Hrs. The project shall be completed in two parts as given below:

Course Title	Code	Cr. Hrs.
Research Project I	BC4903	3
Research Project II	BC4913	3

## Community Work (BC3000)

Each student is required to complete 65 hours of community work, usually after 4th semester which would be a prerequisite for the award of degree.

## **Program Duration**

This is a four-year degree program comprising of 8 semesters. There will be a Fall and a Spring semester in each year. The summer semester will be utilized for internship or deficiency courses. The maximum duration to complete BS Biochemistry degree is 7 years.

# Scheme of Studies BS Biochemistry

#### Semester-I (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BCHU1013	English I	Inter. Dept.	3
BC1333	Inorganic Chemistry	BC General	3
BCHU1033	Islamic studies	Inter. Dept.	3
BCCS1013	Introduction to Computer Science	Inter. Dept.	3
BCHU1043	Social Science I	BC General	3
BC1213	Introduction to Biochemistry	BC Foundation	3

#### Semester-II (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BCHU1053	English-II	Inter. Dept.	3
BCMT1013	Biostatistics	Inter. Dept.	3
BCHU1063	Social Science II	BC General	3
BCMG1013	Marketing and Management	BC General	3
BC1313	Organic Chemistry	BC General	3
BC1323	Carbohydrates and Lipids	BC Foundation	3

#### Semester-III (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BCHU2073	English-III	Inter. Dept.	3
BCMT2023	Mathematics	Inter. Dept.	3
BCHU2023	Pakistan Studies	Inter. Dept.	3
BC2413	Physical Chemistry	BC General	3
BC2343	Amino Acid & Proteins	BC Foundation	3
BC2423	Human Physiology	BC Foundation	3

#### Semester-IV (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BC2613	Biophysics	BC General	3
BC2513	Genetics	BC General	3
BC2623	Microbiology	BC General	3
BC2533	Enzymes	BC Foundation	3
BC2243	Plant Biochemistry	BC Core	3
BC2223	Metabolism	BC Foundation	3

# Scheme of Studies BS Biochemistry

#### Semester-V (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BC3633	Cell Biology	BC Core	3
BC3233	Biochemistry Techniques	BC Core	3
BC3013	Biosafety & Ethics	BC Core	3
BC3243	Plant Biochemistry	BC Core	3
BC3253	Clinical Biochemistry	BC Core	3
BC3643	General Virology	BC Elective	3

#### Semester-VI (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BC3553	Cell & Tissue Culture	BC Elective	3
BC3563	Bio-Membranes & Cell Signaling	BC Core	3
BC3583	Fermentation Biotechnology	BC Elective	3
BC3572	Bioenergetics	BC Core	3
BC3263	Nutritional Biochemistry	BC Core	3
BC3023	Bioinformatics	BC Core	3

#### Semester-VII (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BC4273	Industrial Biochemistry	BC Core	3
BC4033	Biotechnology	BC Core	3
BC4653	Immunology	BC Core	3
BC4283	Current Trends in Biochemistry	BC Core	3
BC4903	Research Project I	Project	3

#### Semester-VIII (12 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BC4293	Environmental Biochemistry	BC Core	3
BC4203	Biochemistry and Entrepreneurship	BC Core	3
BC4663	Toxicology	BC Elective	3
BC4913	Research Project II	Project	3

# MS Biochemistry

## Admission Requirements

- (i) (i) A minimum of 16 years of education leading to BS Degree in relevant discipline
- (ii) Minimum 2.00/4.00 CGPA or 50% marks in annual system
- (iii) Admission Test/HEC Approved Test.

## Degree Requirements

A student admitted in this program will have to complete the degree requirements by following any one of the options given below:

- (i) 24 Cr. Hrs course work with 6 Cr. Hrs Thesis
- (ii) Course work only (10 Courses)

Each candidate for the MS Biochemistry degree is required to successfully earn 30 Cr. Hrs. as per the following detail:

	Area		Cr. Hrs.
a)	Course Work		24
b)	Thesis/Project/Additional Courses		06
		Total	30

#### a) Graduate Courses

Course Title	Code	Cr. Hrs.
Applied Enzymology	BC5613	3
Nutritional Biochemistry	BC5213	3
Metabolic Pathways	BC5513	3
Molecular Genetics	BC5623	3
Environmental Biochemistry	BC5223	3
Frontiers in Biochemistry	BC5233	3
Advanced Biochemistry	BC5243	3
Advanced Techniques in Biochemistry	BC5253	3
Biochemistry of Cell Signaling	BC5263	3
Biostatistics	BC5013	3
Advanced Clinical Biochemistry	BC5273	3
Advances in Recombinant DNA Technology	BC5633	3
Advanced Toxicology	BC5283	3
Bioinformatics	BC5023	3

#### b) Research Thesis

Course Title	Code	Cr. Hrs.
Research Thesis	BC6916	6
Thesis Continuation	BC6921	1

## CGPA Requirement

A student is required to earn a minimum of 2.50/4.00 CGPA on the completion of his/her degree requirements.

### **Program Duration**

This is nominally a two-year degree program comprising of 4 semesters. There will be a Fall and a Spring semester in each year. The maximum duration to complete MS Biochemistry degree is 04 years.



# PhD Biochemistry

The Department of Biochemistry offers conducive Teaching and Research Environment for our PhD Scholars through Highly Qualified and HEC Approved PhD Super- visors. We have developed well established laboratories with stateof-the-art facilities and equipment to polish and enhance the research skills of PhD Scholars. Research projects are in progress on Proteomics, Genomics, Toxicology, Immunology, Molecular aspects of Disease Diagnosis and Isolation of Biomolecules from Natural Products etc. For Collaborative research on advanced and recent topics, we have developed linkages with several Foreign Universities such as Metropolitan Manchester University UK, University of Oxford, UK, Umm Al-Qura University Saudi Arabia etc. We provide competitive platform to obtain research outcomes for the betterment of this country and globe and publications in High Impact Journals and International Conferences. Our graduates are securing bright careers in different universities, research organizations and industries in Pakistan and abroad.

## Admission Requirements

- MS degree in relevant discipline
- (ii) Minimum CGPA 3.00/4.00 (Semester System) or 60% marks (Annual System)
- (iii) Admission Test/HEC Approved Test
- (iv) Interview

## Degree Requirements

A PhD candidate shall be awarded degree on successful completion of the following requirements:

- 8 Cr. Hrs. Course Work with minimum CGPA 3.00/4.00
- Comprehensive Examination (written and oral)
- (iii) Synopsis Defense
- (iv) 30 Cr. Hrs. Research Work
- (v) Publication of at least one research paper in HEC approved journal
- (vi) Dissertation Foreign Reviews
- (vii) Dissertation Final Defense

Note: PhD scholars are required to comply with the following timeline:

Activity	Preferred Time	Maximum
Course Work	2 Semesters	3 Semesters
Comprehensive Exam	3 Semesters	4 Semesters
Synopsis Qualification	4 Semesters	6 Semesters
Thesis Submission	6 Semesters	14 Semesters (7 years)



# BS Food Sciences and Technology

## Admission Requirements

- (i) Higher Secondary School Certificate (FSc Pre-Medical) or Equivalent with Physics, Chemistry and Biology securing at least 45% marks in aggregate. In case of foreign qualification, equivalence from IBCC will be required.
- (ii) UCP admission test or HEC approved test.

## Degree Requirements

Each candidate for the BS Food Sciences and Technology degree is required to success-fully earn 135 Cr. Hrs. with the CGPA of 2.0 on the scale of 4.0 as per the following details:

	Area		Cr. Hrs.
a)	Foundation Courses		24
b)	General Courses		42
c)	Interdepartmental Courses		33
d)	Core Courses		20
e)	Elective Courses		10
f)	Research Project		06
		Total	136

#### a) Foundation Courses (24 Cr. Hrs.)

	-	
Course Title	Code	Cr. Hrs.
Confectionery and Snack Foods	FS3453	3
Sugar Technology	FS3653	3
Food Process Engineering	FS3663	3
Instrumental Techniques in Food Analysis	FS3433	3
Beverage Technology	FS3533	3
Fruits and Vegetables Processing	FS2623	3
Meat and Sea Food Processing Technology	FS3513	3
Public Health, Milk and Meat Hygiene	FS3633	3

#### b) Core Courses (20 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Bakery Products Technology	FS3463	3
Food Biotechnology	FS3543	3
Food Laws & Regulation	FS3703	3
Technology of Oils and Fats	FS2553	3
Food Packaging	FS4563	3
Sensory Evaluation of Foods	FS4482	2
Extrusion Technology	FS3573	3

#### c) General Courses (42 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Food Science & Technology	FS1103	3
Essentials of Biochemistry	FS1203	3
Principles of Human Nutrition	FS1403	3
Food Chemistry	FS1213	3
General Microbiology	FS1303	3
Food Microbiology	FS2313	3
Postharvest Technology	FS2413	3
Community Nutrition	FS2423	3
Dairy Technology	FS3503	3
Food Processing & Preservation	FS2603	3
Unit Operation in Food Processing	FS2613	3
Food Plant Layout and Sanitation	FS2523	3
Cereal Technology	FS2643	3
Food Toxicology	FS3473	3

## d) Interdepartmental Courses (33 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Islamic Studies	FSHU1003	3
Introduction to Information Technology	FSCS1003	3
Pakistan Studies	FSHU1013	3
English-I	FSHU1023	3

Course Title	Code	Cr. Hrs.
Mathematics-I	FSMT1013	3
English-II	FSHU1043	3
Statistics	FSMT1003	3
Mathematics-II	FSMT2023	3
Entrepreneurship in Food Science and Technology	FSMG4003	3
Biostatistics	FSMT2033	3
Research Methodology and Skills	FSHU4053	3

### e) Elective Courses (10 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Food Product Development	FS4683	3
Food Safety and Quality Management	FS4492	2
Poultry and Egg Processing	FS4673	3
Food Service Management	FS4472	2

## f) Research Project (06 Cr. Hrs.)

After the completion of 90 Cr. Hrs., the students are required to demonstrate their practical skills in the field of Food Science and Technology by designing and implementing a research project worth 6 Cr. Hrs. The project shall be completed in two parts as given below:

Course Title	Code	Cr. Hrs.
Research Project I	FS4903	3
Research Project II	FS4913	3

## Community Work (BT3000)

Each student is required to complete 65 hours of community work, usually after 4th semester which would be a prerequisite for the award of degree.

## **Program Duration**

This is a four-year degree program comprising of 8 semesters. There will be a Fall and a Spring semester in each year. The summer semester will be utilized for internship or deficiency courses. The maximum duration to complete BS Food Sciences and Technology degree is 7 years.



# Scheme of Studies BS Food Sciences and Technology

#### Semester-I (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
FS1103	Introduction to Food Science & Technology	General	3
FSHU1003	Islamic Studies	Inter Department	3
FS1203	Essentials of Biochemistry	General	3
FSCS1003	Introduction to Information Technology	Inter Department	3
FSHU1013	Pakistan Studies	Inter Department	3
FSHU1023	English-l	Inter Department	3

#### Semester-II (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
FS1403	Principles of Human Nutrition	General	3
FSMT1013	Mathematics-I	Inter Department	3
FS1213	Food Chemistry	General	3
FSHU1043	English-II	Inter Department	3
FSMT1003	Statistics	Inter Department	3
FS1303	General Microbiology	General	3

#### Semester-III (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
FS2313	Food Microbiology	General	3
FS2413	Postharvest Technology	General	3
FSMT2023	Mathematics-II	Inter Department	3
FS2423	Community Nutrition	General	3
FS2503	Dairy Technology	General	3
FS2603	Food Processing & Preservation	General	3

#### Semester-IV (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
FS2553	Technology of Oils and Fats	Core	3
FS2613	Unit Operation in Food Processing	General	3
FS2623	Fruits and Vegetables Processing	Foundation	3
FSMT2033	Biostatistics	Inter Department	3
FS2643	Cereal Technology	General	3
FS2653	Sugar Technology	Foundation	3

# Scheme of Studies BS Food Sciences and Technology

#### Semester-V (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
FS3523	Food Plant Layout and Sanitation	General	3
FS3513	Meat and Sea Food Processing Technology	Foundation	3
FS3633	Public Health, Milk and Meat Hygiene	Foundation	3
FS3663	Food Process Engineering	Foundation	3
FS3433	Instrumental Techniques in Food Analysis	Foundation	3
FS3533	Beverage Technology	Foundation	3

#### Semester-VI (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
FS3573	Extrusion Technology	Core	3
FS3473	Food Toxicology	General	3
FS3453	Confectionery and Snack Foods	Foundation	3
FS3463	Bakery Products Technology	Core	3
FS3543	Food Biotechnology	Core	3
FS3703	Food Laws & Regulation	Core	3

#### Semester-VII (14 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
FSMG4003	Entrepreneurship in FST	Inter Department	3
FS4563	Food Packaging	Core	3
FS4673	Poultry and Egg Processing	Elective	3
FS4482	Sensory Evaluation of Foods	Core	2
FS4903	Research Project I	Project	3

#### Semester-VIII (12 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
FS4472	Food Service Management	Elective	2
FS4683	Food Product Development	Elective	3
FS4492	Food Safety and Quality Management	Elective	2
FSHU4053	Research Methodology & Skills	Inter Department	3
FS4913	Research Project II	Project	3





Dean

you to the wonders of the natural world, from infinitesimally small subatomic particles to the infinitely large universe – and everything else in sharpen your mind, develop your curiosity, and gain facility in the language of numbers. Scientist, teacher, physician or entrepreneur - whatever your career goal are, an education in science will help you get there. The Faculty of Sciences offers Chemistry, Botany and Zoology. Through both practical and theory-based learning, we provide the exciting and engaging environment required to inspire creativity, innovation and collaboration. Faculty of Sciences is committed to see all its graduates scientifically trained and well equipped to tackle global challenges. Students have opportunity to enhance their learning experience by participating in our distinctive undergraduate programs. Our progressive faculty aims to provide its students with excellent, contem-porary, academically challenging programs, quality us to explore, discover and achieve at Faculty of Sciences.

Welcome to the Faculty of Sciences, University of Central Punjab. Our disciplines will introduce

between. Along the way, you will acquire new skills, undergraduate programs in Mathematics, Physics, teaching and up-to-date learning environment. It is an exciting time to be in science. I invite you to join

## **Faculty Members**



#### Dr. Mushtaq A. Saleem

Post-Doc Zoology (Newcastle General Hospital and the University of Newcastle upon Tyne, UK)
PhD Zoology Environment Biochemistry/ Biochemical Toxicology
(University of the Punjab, Lahore)
MSc Applied Entomology (University Newcastle upon Tyne, UK)
Professor and Acting Dean



#### Dr. H. Rizwana Kausar

Post-Doc Physics (University of Zurich, Switzerland)
PhD Applied Mathematics (University of the Punjab, Lahore)
MPhil Applied Mathematics (University of the Punjab, Lahore)
MSc Applied Mathematics, (Islamia University, Bahawalpur)
Associate Professor/Associate Dean Faculty of Sciences



#### Dr. Shafiq ur Rehman

PhD Chemistry (Government College University, Lahore) MPhil Chemistry (Government College University, Lahore) MSc Chemistry (University of the Punjab, Lahore) Assistant Professor/HOD-Chemistry



Dr. Nadeem Ullah

PhD Botany (Government College University, Lahore) MPhil Botany (Government College University, Lahore) MSc Botany (Government College University, Lahore) Assistant Professor/HOD-Botany



Dr. Asma Naeem

PhD Zoology (University of the Punjab, Lahore) MPhil (University of the Punjab, Lahore) MSc (University of the Punjab, Lahore) Assistant Professor/HOD-Zoology



#### Dr. Faheem Ahmed Khan

PhD Zoology (Huazhong Agricultural University Wuhan, China) MS Crop Genetics & Breeding, (Huazhong Agricultural University, China) BSc (Hons) Agriculture, (University of Arid Agriculture, Rawalpindi) Assistant Professor



Dr. Syeda Amber Yousaf

PhD Physics (Government College University, Lahore) MPhil Physics (Government College University, Lahore) MSc Physics (Government College University, Lahore) Assistant Professor



Dr. Khalida Naseem

PhD Physical Chemistry (University of the Punjab) MPhil Chemistry (University of the Punjab, Lahore) MSc Chemistry (University of the Punjab, Lahore) Assistant Professor



Mr. Atif Rahman Alvi

PhD High Energy Physics-In Progress (University of the Punjab, Lahore) MPhil Physics (University of the Punjab, Lahore) MSc Physics (Bahauddin Zakariya University, Multan) Lecturer/HOD-Physics



Mr. Muhammad Saad Tariq

PhD Solid State Physics-In Progress (University of the Punjab, Lahore) MPhil Solid State Physics (University of the Punjab, Lahore) MSc (University of the Punjab, Lahore) Lecturer



Mr. Adnan Rafiq Siddique

MPhil Mathematics (University of Lahore) MSc Mathematics (University of the Punjab, Lahore) MSc Computer Science (University of the Punjab, Lahore) Lecturer/HOD-Mathematics



#### Dr. Shazia Imtiaz Nagra

MSc (Hons) Veterinary Clinical Medicine and Surgery (University of Agriculture Faisalabad) Doctor of Veterinary Medicine (University of Agriculture Faisalabad) Lecturer



#### Mr. Muhammad Idnan

PhD Wildlife and Ecology-In Progress (University of Veterinary and Animal Sciences, Lahore) MPhil Zoology (University of Veterinary and Animal Sciences, Lahore) MSc Zoology (University of the Punjab, Lahore) Lecturer



Ms. Ammara Ihsan

MPhil Mathematics (University of Lahore) MSc Mathematics (Government College University, Lahore) Lecturer





Ms. Sadaf Javaid MPhil Chemistry (University of Lahore) BSc (Hons) Chemistry (Kinnaird College for Women University, Lahore) Lecturer



Mr. Muhammad Saleem
PhD Organic Chemistry-In Progress (University of Engineering and Technology, Lahore)
MPhil Chemistry (University of Engineering and Technology, Lahore)
MSc Chemistry (University of the Punjab, Lahore)
Lecturer

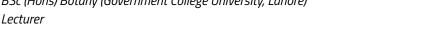


Ms. Ayesha Kermani MS Mathematics (University of the Punjab, Lahore) BS Mathematics (University of the Punjab, Lahore) Lecturer



Ms. Rosha Tahir MPhil Computational Mathematics (University of the Punjab, Lahore) BS Mathematic (University of the Punjab, Lahore) Lecturer





Mr. Ahmed Dogar MPhil Statistics (City University London, UK) BS (Hons) Actuarial Sciences (CASS Business School, City University, London) Lecturer

# **BS Chemistry**

The BS Chemistry program prepare students for careers as professional chemists and serves as a foundation for careers in other fields such as biology and medicine. The curriculum offers a thorough fundamental knowledge of the major fields of chemistry covering the general areas of inorganic, organic, physical chemistry and bounteous specialized areas. Students gain professional laboratory experience in organic and inorganic synthesis, analytical methods, physical chemical measurements and biochemical engineering.

#### **Career Prospects**

Chemistry is a field that has a wide scope. Professionals in this field have the opportunity to work in multiple areas due to the overlap between chemistry and other sciences. Subsequently, for further studies, students can choose one of many different fields that require

professionals with experience in chemistry. The door is therefore open for postgraduate and higher qualifications as you climb the ladder of success. A BS chemist can easily work in any of the areas listed below:

- Chemical Industry
- Sugar Industry
- Mining and Mineral Department
- Glass Industry
- Forensic Labs
- Research Labs (PCSIR, PITAC etc.)
- Pharmaceutical Industry
- Cement Industry
- Seed Companies
- Petro-Chemical Industry
- Ceramics Industry
- Beverages Industry
- Education Sector (PPSC, FPSC)

### Admission Requirements

(i) Intermediate with Chemistry securing at least 45% marks

- in aggregate. In case of foreign qualification, equivalence from IBCC will be required.
- (ii) UCP admission test or HEC approved test

#### Degree Requirements

Each candidate of BS Chemistry degree is required to complete 138 Cr. Hrs. with the CGPA of 2.00 on the scale of 4.00 as per the following detail:

	Area	Cr. Hrs.
a)	Compulsory Requirements	27
b)	General Courses	21
c)	Foundation Courses	24
d)	Major Courses	34
e)	Elective Courses	06
f)	Specialization Courses	20
g)	Research Project	06
	Total	138

#### a) Compulsory Requirements (27 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Functional English	CHHU1013	3
Mathematics I (Algebra)	CHMT1013	3
Pakistan Studies	CHHU1023	3
Communication Skills	CHHU1033	3
Computer Application & Programming	CHCS1013	3
Islamic Studies/Ethics	CHHU1043	3
Technical Writing & Presentation Skills	CHHU2053	3
Advanced Computer Applications	CHCS2023	3
Introduction to Psychology	CHHU2073	3

#### b) General Courses (21 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Principles of Animal Life I	CHZ01012	2
Principles of Animal Life I Lab	CHZ01011	1
Diversity of Plants	CHB01012	2
Diversity of Plants Lab	CHB01011	1
Cell Biology, Genetics and Evolution	CHB01022	2
Cell Biology, Genetics and Evolution Lab	CHB01021	1
Principles of Animal Life II	CHZ01022	2
Principles of Animal Life II Lab	CHZ01021	1
Biological Techniques	CHZ02032	2
Biological Techniques Lab	CHZ02031	1
Introduction to Sociology	CHHU2063	3
Plant Physiology and Ecology	CHB02032	2
Plant Physiology and Ecology Lab	CHB02031	1

### c) Foundation Courses (24 Cr. Hrs.)

,	- /	
Course Title	Code	Cr. Hrs.
Inorganic Chemistry	CH1103	3
Inorganic Chemistry Lab	CH1101	1
Physical Chemistry	CH1203	3
Physical Chemistry Lab	CH1201	1
Organic Chemistry	CH2303	3
Organic Chemistry Lab	CH2301	1
Statistics	CHMT2023	3
Basic Pharmaceutical and Forensic Chemistry	CH2402	2
Basic Pharmaceutical and Forensic Chemistry Lab	CH2401	1
Biochemistry I	CH2602	2
Biochemistry I Lab	CH2601	1
Analytical Chemistry I	CH2502	2
Analytical Chemistry I Lab	CH2501	1

## d) Major Courses (34 Cr. Hrs.)

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Course Title	Code	Cr. Hrs.
Inorganic Chemistry II	CH3113	3
Inorganic Chemistry II Lab	CH3111	1
Organic Chemistry II	CH3313	3
Organic Chemistry II Lab	CH3311	1
Physical Chemistry II	CH3213	3
Physical Chemistry II Lab	CH3211	1
Analytical Chemistry II	CH3513	3
Analytical Chemistry II Lab	CH3511	1
Applied Chemistry	CH3012	2
Inorganic Chemistry III	CH3123	3
Inorganic Chemistry III Lab	CH3121	1
Organic Chemistry III	CH3323	3
Organic Chemistry III Lab	CH3321	1
Physical Chemistry III	CH3223	3
Physical Chemistry III Lab	CH3221	1
Biochemistry II	CH3613	3
Biochemistry II Lab	CH3611	1

### e) Elective Courses (06 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Instrumental Analysis and Analytical Techniques	CH4022	2
Instrumental Analysis and Analytical Techniques Lab	CH4021	1
Environmental Chemistry	CH4033	3

## f) Specialization Courses (20 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Specialization I	CH4xx3	3
Specialization II	CH4xx3	3
Specialization III	CH4xx3	3
Specialization IV	CH4xx3	3
Specialization V	CH4xx3	3
Specialization VI	CH4xx3	3
Specialization Lab I	CH4xx1	1
Specialization Lab II	CH4xx1	1

Students can choose the specialization from the given domains

#### Inorganic Chemistry

Course Title	Code	Cr. Hrs.
Inorganic Reaction Mechanism	CH4133	3
π-Acceptor Ligands and Inorganic Polymers	CH4143	3
Inorganic Spectroscopy	CH4153	3
Organometallics	CH4163	3
Symmetry and Magneto Chemistry	CH4173	3
Radio and Nuclear Chemistry	CH4 183	3
Inorganic Chemistry Lab I	CH4101	1
Inorganic Chemistry Lab II	CH4111	1

## Organic Chemistry

Course Title	Code	Cr. Hrs.
Heterocyclic and Organometallic Compounds	CH4333	3
Reactive Intermediates	CH4343	3
Organic Spectroscopy	CH4353	3

Course Title	Code	Cr. Hrs.
Natural Products	CH4363	3
Organic Synthesis	CH4373	3
Medicine in Chemistry	CH4383	3
Organic Chemistry Lab I	CH4301	1
Organic Chemistry Lab II	CH4311	1

Physical Chemistry
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Analytical Chemistry

Course Title	Code	Cr. Hrs.
Electrochemistry and Statistical		
Thermodynamics	CH4233	3
Polymer Chemistry	CH4243	3
Quantum Chemistry and Molecular Spectroscopy	CH4253	3
Reaction Dynamics	CH4263	3
Radiation and Photochemistry	CH4273	3
Colloid and Surface Chemistry	CH4283	3
Physical Chemistry Lab I	CH4201	1
Physical Chemistry Lab II	CH4211	1

Course Title	Code	Cr. Hrs.
Atomic Spectroscopy	CH4523	3
Electro Analytical Techniques	CH4533	3
Advanced Separation Techniques	CH4543	3
Luminescence Spectroscopy and	CH4553	3

Course Title	Code	Cr. Hrs.
Nuclear Analytical Techniques	CH4563	3
Food and Drug Analysis	CH4573	3
Analytical Chemistry Lab I	CH4501	1
Analytical Chemistry Lab II	CH4511	1

#### g) Research Project (06 Cr. Hrs.)

After the completion of 90 Cr. Hrs., the students are required to demonstrate their practical skills in the field of Chemistry by designing and implementing a research project worth 6 Cr. Hrs. The project shall be completed in two parts as given below:

Course Title	Code	Cr. Hrs.
Research Project I	CH4903	3
Research Project II	CH4913	3

### Volunteer Service (CH3000)

Each student is required to complete 65 hours community work during the program, which would be a pre requisite for the award of degree.

## **Program Duration**

This is a four years degree program comprising of 8 semesters. There is a Fall and a Spring semester in each year. The summer semester is utilized for improve / repeat / deficiency courses. The maximum duration to complete the BS Chemistry program is 7 years.



# Scheme of Studies BS Chemistry

#### Semester-I (19 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CHHU1013	Functional English	Compulsory	3
CHMT1013	Mathematics I (Algebra)	Compulsory	3
CHHU1023	Pakistan Studies	Compulsory	3
CHZ01012	Principles of Animal Life I	General	2
CHZO1011	Principles of Animal Life I Lab	Lab	1
CHB01012	Diversity of Plants	General	2
CHB01011	Diversity of Plants Lab	Lab	1
CH1103	Inorganic Chemistry	Foundation	3
CH1101	Inorganic Chemistry Lab	Lab	1

#### Semester-II (19 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CHHU1033	Communication Skills	Compulsory	3
CHCS1013	Computer Application & Programming	Compulsory	3
CHHU1043	Islamic Studies/Ethics	Compulsory	3
CHB01022	Cell Biology, Genetics and Evolution	General	2
CHB01021	Cell Biology, Genetics and Evolution Lab	Lab	1
CHZO1022	Principles of Animal Life II	General	2
CHZO1021	Principles of Animal Life II Lab	Lab	1
CH1203	Physical Chemistry	Foundation	3
CH1201	Physical Chemistry Lab	Lab	1

# Scheme of Studies BS Chemistry

#### Semester-III (19 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CHHU2053	Technical Writing & Presentation Skills	Compulsory	3
CHCS2023	Advanced Computer Application	Compulsory	3
CHZ02032	Biological Techniques	General	2
CHZ02031	Biological Techniques Lab	Lab	1
CHHU2063	Introduction to Sociology	General	3
CH2303	Organic Chemistry	Foundation	3
CH2301	Organic Chemistry Lab	Lab	1
CHMT2023	Statistics	Foundation	3

#### Semester-IV (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CHHU2073	Introduction to Psychology	Compulsory	3
CHB02032	Plant Physiology and Ecology	General	2
CHB02031	Plant Physiology and Ecology Lab	Lab	1
CH2402	Basic Pharmaceutical and Forensic Chemistry	Foundation	2
CH2401	Basic Pharmaceutical and Forensic Chemistry Lab	Lab	1
CH2602	Biochemistry I	Foundation	2
CH2601	Biochemistry I Lab	Lab	1
CH2502	Analytical Chemistry I	Foundation	2
CH2501	Analytical Chemistry I Lab	Lab	1

#### Semester-V (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CH3113	Inorganic Chemistry II	Major	3
CH3111	Inorganic Chemistry II Lab	Lab	1
CH3313	Organic Chemistry II	Major	3
CH3311	Organic Chemistry II Lab	Lab	1
CH3213	Physical Chemistry II	Major	3
CH3211	Physical Chemistry II Lab	Lab	1
CH3513	Analytical Chemistry II	Major	3
CH3511	Analytical Chemistry II Lab	Lab	1
CH3012	Applied Chemistry	Major	2

# Scheme of Studies BS Chemistry

#### Semester-VI (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CH3123	Inorganic Chemistry III	Major	3
CH3121	Inorganic Chemistry III Lab	Lab	1
CH3323	Organic Chemistry III	Major	3
CH3321	Organic Chemistry III Lab	Lab	1
CH3223	Physical Chemistry III	Major	3
CH3221	Physical Chemistry III Lab	Lab	1
CH3613	Biochemistry II	Major	3
CH3611	Biochemistry II Lab	Lab	1

#### Semester-VII (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CH4xx3	Specialization I	Specialization	3
CH4xx3	Specialization II	Specialization	3
CH4xx3	Specialization III	Specialization	3
CH4xx1	Specialization Lab I	Lab	1
CH4022	Instrumental Analysis and Analytical Techniques	Elective	2
CH4021	Instrumental Analysis and Analytical Techniques Lab	Lab	1
CH4903	Research Project I	Research Project	3

#### Semester-VIII (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
CH4xx3	Specialization IV	Specialization	3
CH4xx3	Specialization V	Specialization	3
CH4xx3	Specialization VI	Specialization	3
CH4xx1	Specialization Lab II	Lab	1
CH4033	Environmental Chemistry	Elective	3
CH4913	Research Project II	Research Project	3

# BS Zoology

Zoology is the scientific study of the characteristics and classification of animals. Zoology is a vibrant and growing discipline with substantial relevance for modern society. Knowledge of animal's biology contributes to the development strategies to reduce and cope with pollution, strive for renewable sources, deal with environmental changes, discover new biologically based solution to human/animal diseases and develop biopharmaceuticals. The study of Zoology is increasingly recognized as vital for understanding and protecting our planet.

### Career Prospects

Zoology is the scientific study of animals. Those who study Zoology are known as zoologists. They study the evolution, behavior, interactions, conservation, classification and distribution of animals. Zoologists often specialize in marine biology, parapsychology and genetics. While studying the morphology, physiology,

anatomy and taxonomy of animals Zoologists have a strong demand between fishing and aquatic farms, natural parks and nature reserves, research companies, institutional academies, botanical gardens and environmental protection agencies. Both the government and private districts have jobs available for zoologists in their spheres. Those who apply for this career must appreciate nature and enthusiasm for animals. It takes a lot of energy and time to observe, investigate and research animals as they are constantly changing in the habitat and suffer from human impact and captivity. Jobs directly related to this degree include:

- Ecologist
- Environmental Consultant
- Field Trials Officer
- Marine Scientist.
- Nature Conservation Officer
- Physician Associate
- Research Scientist (Life Sciences)
- Zookeeper

### Admission Requirements

- (i) Intermediate or equivalent with Biology securing at least 45% marks in aggregate. In case of foreign qualification, equivalence from IBCC will be required.
- (ii) UCP admission test or HEC approved test.

## Degree Requirements

Each candidate of BS Zoology degree is required to complete 137 Cr. Hrs. with the CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Compulsory	27
b)	General	23
c)	Foundation	34
d)	Major	35
e)	Elective	12
f)	Project	6
	Total	137

### a) Zoology Foundation Courses (34 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Principles of Animal Life-I	Z01303	3
Principles of Animal Life-I Lab	Z01301	1
Principles of Animal Life-II	Z01313	3
Principles of Animal Life-II Lab	Z01311	1
Animal Diversity-I (Invertebrates)	Z02323	3
Animal Diversity-I (Invertebrates)-Lab	Z02321	1
Animal Diversity-II (Chordates)	Z02333	3
Animal Diversity-II (Chordates)-Lab	Z02331	1
Animal Form & Function-I	Z02343	3

Animal Form & Function-I Lab	Z02341	1
Animal Form & Function-II	Z02353	3
Animal Form & Function-II Lab	Z02351	1
General Biochemistry	Z03233	3
General Biochemistry-Lab	Z03231	1
Evolution & Principles of Systematics	Z03702	2
Evolution & Principles of Systematics Lab	Z03701	1
Biological Techniques	Z03412	2
Biological Techniques Lab	Z03411	1
Evolution & Principles of Systematics Evolution & Principles of Systematics Lab Biological Techniques	Z03702 Z03701 Z03412	2 1 2

# b) Zoology General Courses (23 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Diversity of Plants	Z01102	2
Diversity of Plants-Lab	Z01101	1
Inorganic Chemistry	Z01202	2
Inorganic Chemistry-Lab	Z01201	1
Plant Systematics, Anatomy & Development	Z01112	2
Plant Systematics, Anatomy & Development-Lab	Z01111	1
Physical Chemistry	Z01212	2
Physical Chemistry-Lab	Z01211	1
Bacteriology and Virology	<i>Z02502</i>	2
Bacteriology and Virology-Lab	Z02501	1
Organic Chemistry	Z02222	2
Organic Chemistry-Lab	<i>Z</i> 02221	1
Plant Physiology and Ecology	Z02122	2
Plant Physiology and Ecology-Lab	Z02121	1
Geography	Z02802	2

# c) Zoology Compulsory Courses (27 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Functional English	Z0HU1003	3
Pakistan Studies	ZOHU1013	3
Mathematics-I	ZOMT1003	3
Communication Skills	ZOHU1023	3
Islamic Studies/Ethics	ZOHU1033	3
Introduction to Computer	ZOCS1003	3
Technical Writing & Presentation Skills	ZOHU2043	3
Biostatistics	ZOMT2012	2
Biostatistics-Lab	ZOMT2011	1
Fundamentals of Microbiology	Z04432	2
Fundamentals of Microbiology-Lab	Z04431	1



## d) Microbiology Major Courses (35 Cr. Hrs.)

a) microbiology major courses (33 cm ms.)			
Course Title	Code	Cr. Hrs.	
Cell & Molecular Biology	Z03403	3	
Cell & Molecular Biology-Lab	Z03401	1	
Physiology	Z03603	3	
Physiology-Lab	Z03601	1	
Animal Behavior	Z03362	2	
Animal Behavior -Lab	Z03361	1	
Wildlife	Z03832	2	
Developmental Biology	Z03423	3	
Developmental Biology-Lab	Z03421	1	
Genetics	Z03713	3	
Genetics-Lab	ZO3711	1	
Zoogeography and Paleontology	Z03812	2	
Zoogeography & Paleontology-Lab	Z03811	1	
Environmental Biology	Z04823	3	
Environmental Biology-Lab	Z04821	1	
Special Paper (Univ. Optional)	Z04xx3	3	
Special Paper (Univ. Optional)-Lab	Z04xx1	1	
Bioinformatics	Z04012	2	
Bioinformatics-Lab	Z04011	1	
	1.00		

# e) Zoology Elective Depth Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Elective I	Z04xx2	2
Elective I Lab	Z04xx1	1
Elective II	Z04xx2	2
Elective II Lab	Z04xx1	1
Elective III	Z04xx2	2
Elective III Lab	Z04xx1	1
Elective IV	Z04xx2	2
Elective IV Lab	Z04xx1	1





## Elective Courses to be offered (Student take 12 credit hours from Elective Course)

Course Title	Code	Cr. Hrs.
Physiological Systems and Adaptations & Lab	Z046412/1	3
Immunology & Lab	Z04512/1	3
Economic Zoology & Lab	Z04372/1	3
Insects of Veterinary and Medical Importance & Lab	Z04382/1	3
Environmental Toxicology & Lab	Z04832/1	3
Fish Culture & Lab	Z04392/1	3
Biology and Control of Vertebrate Pests & Lab	Z04482/1	3
Helminthology and Host-Parasite Relationship & Lab	Z04442/1	3
General and Comparative Endocrinology & Lab	Z04452/1	3
Hematology & Lab	Z04462/1	3
Entomology & Lab	Z04472/1	3
Physiology of Coordination & Lab	Z04652/1	3

#### f) Research Project (06 Cr. Hrs.)

After the completion of 90 Cr. Hrs., the students are required to demonstrate their practical skills in the field of Zoology by designing and implementing a research project worth 6 Cr. Hrs. The project shall be completed in two parts as given below:

Course Title	Code	Cr. Hrs.
Research Project I	Z04903	3
Research Project II	Z04913	3

## Community Work (ZO3000)

Each student is required to complete 65 hours of community work, usually after 4th semester which would be a prerequisite for the award of degree.

## **Program Duration**

This is a four-year degree program comprising of 8 semesters. There will be a Fall and a Spring semester in each year. The summer semester will be utilized for internship / improvement or deficiency courses. The maximum duration to complete BS Zoology degree is 7 years.

# Scheme of Studies BS Zoology

#### Semester-I (19 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
Z0HU1003	Functional English	Compulsory	3
Z0HU1013	Pakistan Studies	Compulsory	3
ZOMT1003	Mathematics-I	Compulsory	3
Z01102	Diversity of Plants	General	2
Z01101	Diversity of Plants-Lab	General Lab	1
Z01202	Inorganic Chemistry	General	2
Z01201	Inorganic Chemistry-Lab	General Lab	1
Z01303	Principles of Animal Life-I	Foundation	3
Z01301	Principles of Animal Life-l Lab	Foundation Lab	1

#### Semester-II (19 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
ZOHU1023	Communication Skills	Compulsory	3
Z0HU1033	Islamic Studies/Ethics	Compulsory	3
ZOCS1003	Introduction to Computer	Compulsory	3
Z01112	Plant Systematics Anatomy & Development	General	2
Z01111	Plant Systematics, Anatomy & Development-Lab	General Lab1	
<i>Z</i> 01212	Physical Chemistry	General	2
Z01211	Physical Chemistry-Lab	General Lab	1
Z01313	Principles of Animal Life-II	Foundation	3
Z01311	Principles of Animal Life-II Lab	Foundation Lab	1

#### Semester-III (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
Z0HU2043	Technical Writing & Presentation Skills	Compulsory	3
ZOMT2012	Biostatistics	Compulsory	2
ZOMT2011	Biostatistics-Lab	Compulsory Lab	1
<i>Z02502</i>	Bacteriology and Virology	General	2
<i>Z</i> 02501	Bacteriology and Virology-Lab	General Lab	1
<i>Z</i> 02222	Organic Chemistry	General	2
<i>Z</i> 02221	Organic Chemistry-Lab	General Lab	1
<i>Z02323</i>	Animal Diversity-I (Invertebrates)	Foundation	3
Z02321	Animal Diversity-I (Invertebrates)-Lab	Foundation Lab	1

# Scheme of Studies BS Zoology

#### Semester-IV (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
Z02122	Plant Physiology and Ecology	General	2
Z02121	Plant Physiology and Ecology-Lab	General Lab	1
Z02802	Geography	General	2
Z02333	Animal Diversity-II (Chordates)	Foundation	3
Z02331	Animal Diversity-II (Chordates)-Lab	Foundation Lab	1
<i>Z</i> 02343	Animal Form & Function-I	Foundation	3
Z02341	Animal Form & Function-I Lab	Foundation Lab	1
Z02353	Animal Form & Function-II	Foundation	3
<i>Z</i> 02351	Animal Form & Function-II Lab	Foundation Lab	1

#### Semester-V (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
Z03233	General Biochemistry	Foundation	3
<i>Z</i> 03231	General Biochemistry-Lab	Foundation Lab	1
<i>Z</i> 03403	Cell & Molecular Biology	Major	3
<i>Z</i> )3401	Cell & Molecular Biology-Lab	Major Lab	1
<i>Z03603</i>	Physiology	Major	3
<i>Z03601</i>	Physiology-Lab	Major Lab	1
<i>Z03362</i>	Animal Behavior	Major	2
<i>Z03361</i>	Animal Behavior -Lab	Major Lab	1
Z03832	Wildlife	Major	2

#### Semester-VI (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
<i>Z03702</i>	Evolution & Principles of Systematics	Foundation	2
Z03701	Evolution & Principles of Systematics Lab	Foundation Lab	1
Z03411	Biological Techniques	Foundation	1
<i>Z</i> 03412	Biological Techniques Lab	Foundation Lab	2
Z03423	Developmental Biology	Major	3
<i>Z</i> 03421	Developmental Biology-Lab	Major Lab	1
Z03713	Genetics	Major	3
<i>Z</i> 03711	Genetics-Lab	Major Lab	1
Z03812	Zoogeography and Paleontology	Major	2
Z03811	Zoogeography & Paleontology-Lab	Major Lab	1

# Scheme of Studies BS Zoology

#### Semester-VII (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
Z04432	Fundamentals of Microbiology	Compulsory	2
Z04431	Fundamentals of Microbiology-Lab	Compulsory Lab	1
Z04823	Environmental Biology	Major	3
Z04821	Environmental Biology-Lab	Major Lab	1
Z04xx3	Special Paper (Univ. Optional)	Major	3
Z04xx1	Special Paper (Univ. Optional)-Lab	Major Lab	1
Z04903	Research Project I	Project	3
Z04xx2	Elective I	Elective	2
Z04xx1	Elective-l Lab	Elective Lab	1

#### Semester-VIII (15 Cr. Hrs.)

Semester-VIII (15			
Course Code	Course Title	Category	Cr. Hrs.
Z04012	Bioinformatics	Major	2
Z04011	Bioinformatics-Lab	Major Lab	1
Z04913	Research Project II	Project	3
Z04xx2	Elective II	Elective	2
Z04xx1	Elective II Lab	Elective Lab	1
Z04xx2	Elective III	Elective	2
Z04xx1	Elective III Lab	Elective Lab	1
Z04xx2	Elective-IV	Elective	2
Z04xx1	Elective-IV Lab	Elective Lab	1
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# **BS** Botany

The program is solidly grounded in the basic sciences (general Biology, Chemistry, Math and Physics) needed to understand the latest research in botany. It also allows a range of choice in upper level courses permitting students to tailor their degrees to their interests within plant biology. Students choose from upper level courses taught by distinguished faculty who have strong research orientation in biological sciences.

#### Career Prospects

Botany scientists who study plants that ranges from the smallest wild grass to the oldest towering trees. They could work with food crops or help wild plant populations recover from natural disasters. Education in botany can open the doors to many careers, most of which involve working with plants in some way. Botany degree generally focus heavily on Biology and Chemistry, but will likely to include courses in Mathematics, Geology and Geography. Degrees in ecology, environmental

sciences or agricultural sciences could also be useful for a botanical career. If you're wondering 'where do botanists work?' here is the answer: almost everywhere. Botanists some- times work indoors, in labs or greenhouses or outdoors, in agricultural fields or in forests and other wild areas around the world.

## Possible Botany Careers

Aside from the botanist, there are many other types of careers that could be adopted after getting a degree in botany. Many of these careers will have a narrower focus, such as working specifically with food crops, so it may be smart to start developing a specialty in botany as soon as possible.

- Industrial Ecologist.
- Agricultural Plant Scientist
- Soil and Water Conservationist
- Horticulturist
- Plant Explorer
- Plant Biochemist

### Admission Requirements

- Intermediate or equivalent with Biology securing at least 45% marks in aggregate. In case of foreign qualification, equivalence from IBCC will be required.
- (ii) UCP admission test or HEC approved test.

### Degree Requirements

Each candidate of BS Botany degree is required to complete 132 Cr. Hrs. with the CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Compulsory	27
b)	General	25
c)	Foundation	32
d)	Major	36
e)	Elective	6
f)	Project	6
	Total	132



## a) Botany Compulsory Courses (27 Cr. Hrs.)

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Course Title	Code	Cr. Hrs.
Functional English	BOHU1003	3
Pakistan Studies	BOHU1013	3
Mathematics-I	BOMT1003	3
Communication Skills	BOHU1023	3
Islamic Studies/Ethics	BOHU1033	3
Introduction to Computer	BOCS1003	3
Technical Writing & Presentation Skill	BOHU2043	3
Biostatistics	B02412	2
Biostatistics-Lab	B02411	1
Geography	B02713	3

## b) Botany General Courses (25 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Principles of Animal Life-I	B01202	2
Principles of Animal Life-I Lab	B01201	1
Inorganic Chemistry	B01302	2
Inorganic Chemistry-Lab	B01301	1
Principles of Animal Life-II	B01212	2
Principles of Animal Life-II Lab	BO1211	1
Introduction to Biotechnology	B01403	3
Applied Chemistry	B02312	2
Applied Chemistry-Lab	B02311	1
Organic Chemistry	B02323	3
Organic Chemistry-Lab	B02321	1
Animal Form and Function	B02222	2
Animal Form & Function-Lab	B02221	1
Physical Chemistry	B02332	2
Physical Chemistry-Lab	B02331	1

## c) Botany Foundation Courses (32 Cr. Hrs.)

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Course Title	Code	Cr. Hrs.
Diversity of Plants	B01703	3
Diversity of Plants-Lab	B01701	1
Plant Systematics, Anatomy and Development	BO1503	3
Plant Systematics, Anatomy and Development Lab	BO1501	1
Cell Biology, Genetics and Evolution	B02603	3
Cell Biology, Genetics and Evolution- Lab	B02601	1
Plant Physiology and Ecology	B02103	3
Plant Physiology & Ecology-Lab	B02101	1
Biodiversity and Conservation	B02723	3
Biodiversity & Conservation-Lab	B02721	1
Bacteriology and Virology	B03802	2
Bacteriology & Virology-Lab	B03801	1
Diversity of Vascular Plants	B03732	2
Diversity of Vascular Plants-Lab	B03731	1
Plant Anatomy	B03512	2
Plant Anatomy-Lab	B03511	1
Plant Ecology-I	B03742	2
Plant Ecology-I Lab	B03741	1

## d) Botany Major Courses (36 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Phycology and Bryology	B03112	2
Phycology & Bryology-Lab	B03111	1
Mycology and Plant Pathology	B03122	2
Mycology & Plant Pathology-Lab	B03121	1
Plant Systematics	B03132	2

Plant Systematics-Lab	B03131	1
Genetics-I	B03612	2
Genetics-I Lab	B03611	1
Plant Biochemistry-I	B03342	2
Plant Biochemistry-I Lab	B03341	1
Plant Physiology-I	B03142	2
Plant Physiology-I Lab	B03141	1
Molecular Biology	B04522	2
Molecular Biology-Lab	B04521	1
Plant Biochemistry-II	B04352	2
Plant Biochemistry-II Lab	B04351	1
Plant Ecology-II	B04752	2
Plant Ecology-II Lab	B04751	1
Plant Physiology-II	BO4152	2
Plant Physiology-II Lab	B04151	1
Genetics-II	B04622	2
Genetics-II Lab	B04621	1
Environmental Biology	B04762	2
Environmental Biology-Lab	B04761	1

#### e) Botany Elective Courses (06 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Elective I	B04xx2	2
Elective I Lab	BO4xx1	1
Elective II	B04xx2	2
Elective II Lab	BO4xx1	1

The course list will be offered by the department

#### f) Research Project (06 Cr. Hrs.)

After the completion of 90 Cr. Hrs., the students are required to demonstrate their practical skills in the field of Botany by designing and implementing a research project worth 6 Cr. Hrs. The project shall be completed in two parts as given below:

Course Title	Code	Cr. Hrs.
Research Project I	B04903	3
Research Project II	B04913	3

#### Volunteer in Service (BO3000)

Each student is required to complete 65 hours of community work, usually after 4th semester which would be a prerequisite for the award of degree.

#### **Program Duration**

This is a four-year degree program comprising of 8 semesters. There will be a Fall and a Spring semester in each year. The summer semester will be utilized for internship or deficiency courses. The maximum duration to complete BS Botany degree is 7 years.

# Scheme of Studies BS Botany

#### Semester-I (19 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BOHU1003	Functional English	Compulsory	3
BOHU1013	Pakistan Studies	Compulsory	3
BOMT1003	Mathematics-I	Compulsory	3
B01202	Principles of Animal Life-I	General	2
B01201	Principles of Animal Life-I Lab	General Lab	1
B01302	Inorganic Chemistry	General	2
B01301	Inorganic Chemistry-Lab	General Lab	1
B01703	Diversity of Plants	Foundation	3
B01701	Diversity of Plants-Lab	Foundation Lab	1

#### Semester-II (19 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
BOHU1023	Communication Skills	Compulsory	3
BOHU1033	Islamic Studies/Ethics	Compulsory	3
BOCS1003	Introduction to Computer	Compulsory	3
B01212	Principles of Animal Life-II	General	2
BO1211	Principles of Animal Life-II Lab	General Lab	1
B01403	Introduction to Biotechnology	General	3
B01503	Plant Systematics, Anatomy and Development	Foundation	3
B01501	Plant Systematics, Anatomy and Development Lab	Foundation Lab	1

#### Semester-III (17 Cr. Hrs.)

Course Code	Course Title	Category Cr. Hrs.
BOHU2043	Technical Writing & Presentation Skill	Compulsory 3
B02412	Biostatistics	Compulsory 2
B02411	Biostatistics-Lab	Compulsory Lab 1
B02312	Applied Chemistry	General 2
B02311	Applied Chemistry-Lab	General Lab 1
B02323	Organic Chemistry	General 3
B02321	Organic Chemistry-Lab	General Lab 1
B02603	Cell Biology, Genetics and Evolution	Foundation 3
B02601	Cell Biology, Genetics and Evolution-Lab	Foundation Lab 1

# Scheme of Studies BS Botany

#### Semester-IV (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
B02713	Geography	Compulsory	3
B02222	Animal Form and Function	General	2
B02221	Animal Form & Function-Lab	General Lab	1
B02332	Physical Chemistry	General	2
B02331	Physical Chemistry-Lab	General Lab	1
B02103	Plant Physiology and Ecology	Foundation	3
B02101	Plant Physiology & Ecology-Lab	Foundation Lab	1
B02723	Biodiversity and Conservation	Foundation	3
B02721	Biodiversity & Conservation-Lab	Foundation Lab	1

#### Semester-V (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
B03802	Bacteriology and Virology	Foundation	2
B03801	Bacteriology & Virology-Lab	Foundation Lab	1
B03732	Diversity of Vascular Plants	Foundation	2
B03731	Diversity of Vascular Plants-Lab	Foundation Lab	1
B03112	Phycology and Bryology	Major	2
BO3111	Phycology & Bryology-Lab	Major Lab	1
B03122	Mycology and Plant Pathology	Major	2
B03121	Mycology & Plant Pathology-Lab	Major Lab	1
B03132	Plant Systematics	Major	2
B03131	Plant Systematics-Lab	Major Lab	1

#### Semester-VI (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
B03512	Plant Anatomy	Foundation	2
BO3511	Plant Anatomy-Lab	Foundation Lab	1
B03742	Plant Ecology-l	Foundation	2
B03741	Plant Ecology-I Lab	Foundation Lab	1
B03612	Genetics-I	Major	2
B03611	Genetics-I Lab	Major Lab	1
B03342	Plant Biochemistry-l	Major	2
B03341	Plant Biochemistry-I Lab	Major Lab	1
B03142	Plant Physiology-I	Major	2
BO3141	Plant Physiology-I Lab	Major Lab	1

# Scheme of Studies BS Botany

## Semester-VII (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
B04522	Molecular Biology	Major	2
B04521	Molecular Biology-Lab	Major Lab	1
B04352	Plant Biochemistry-II	Major	2
B04351	Plant Biochemistry-II Lab	Major Lab	1
B04752	Plant Ecology-II	Major	2
B04751	Plant Ecology-II Lab	Major Lab	1
B04xx2	Elective-I	Elective	2
BO4xx1	Elective-I Lab	Elective Lab	1
B04903	Research Project I	Project	3

## Semester-VIII (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
B04152	Plant Physiology-II	Major	2
BO4151	Plant Physiology-II Lab	Major Lab	1
B04622	Genetics-II	Major	2
B04621	Genetics-II Lab	Major Lab	1
B04762	Environmental Biology	Major	2
B04761	Environmental Biology-Lab	Major Lab	1
BOT4xx2	Elective-II	Elective	2
BOT4xx1	Elective-II Lab	Elective Lab	1
B04913	Research Project II	Project	3

## **BS Physics**

Our goal is to produce graduates who can function in an outstanding manner whether as academic scholar in universities, technical experts for the government and private sector, researchers in R & D organizations. In whatever capacity they serve, they will have a solid grounding in their field and will be equipped with strong critical and analytical abilities developed by program. As a Physics major, you will firstly develop a strong background in Mathematics and fundamentals of Physics. Later, you will tackle advanced level Physics courses in such challenging fields as optics, thermodynamics, quantum mechanics, theoretical mechanics, electrodynamics and solid-state physics.

## Career Prospects

With a Bachelor's of Science degree in Physics, one can pursue a career in multiple fields of research and development, manufacturing, engineering, education, medicine and military. Recent students can take benefit of the many research and training opportunities accessible to help prepare them for their chosen careers. The percentage of employees in graduates of the Bachelor of Physics is about 63.1%. While 36.9% of students of the Bachelor of Physics continue their graduate studies and research on national and international platforms. Senior employers who provide physicists to work with their organization are listed as follows:

- Education sector
- SUPARCO
- Atomic Energy Commission
- Clinical Scientist, Medical Physicists
- Meteorologist
- Geophysicist
- Astronomer
- Radiation protection practitioner
- Metallurgist
- Research scientist (Physical Sciences).

## Admission Requirements

- (i) Intermediate or equivalent with Mathematics and Physics securing at least 45% marks in aggregate. In case of foreign qualification, equivalence from IBCC will be required.
- (ii) UCP admission test or HEC approved test.

## Degree Requirements

Each candidate of BS Physics degree is required to complete 135 Cr. Hrs. with the CGPA of 2.00 on the scale of 4.00 as per the following detail:

	Area	Cr. Hrs.
a)	Compulsory Requirements	27
b)	General Courses	21
c)	Foundation Courses	24
d)	Major Courses	48
e)	Elective Courses	12
f)	Research Project	03
	Total	135



## a) Compulsory Requirements (27 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Functional English	PYHU1013	3
Pakistan Studies	PYHU1023	3
Calculus I	PYMT1013	3
Communication Skills	PYHU1043	3
Islamic Studies/Ethics	PYHU1053	3
Calculus II	PYMT1023	3
Technical Writing & Presentation Skills	PYHU2063	3
Statistics	PYMT2033	3
Introduction to Computer	PYCS2023	3

## b) General Courses (21 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Introduction to Sociology	PYHU1033	3
Physical Chemistry	PY1313	3
Differential Equations	PYMT2043	3
Computer Programming	PYCS2013	3
Linear Algebra	PYMT2053	3
Introduction to Psychology	PYHU2073	3
Environmental Physics	PY3513	3

## c) Foundation Courses (24 Cr. Hrs.)

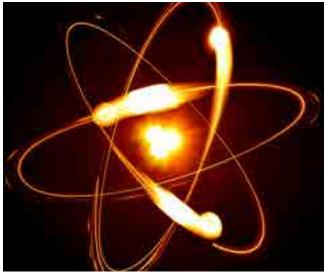
Course Title	Code	Cr. Hrs.
Mechanics	PY1114	4
Mechanics Lab	PY1111	1
Electricity & Magnetism	PY1214	4
Electricity & Magnetism Lab	PY1211	1
Waves & Oscillations	PY1123	3
Heat & Thermodynamics	PY2413	3
Heat & Thermodynamics Lab	PY2411	1
Modern Physics	PY2503	3
Optics	PY2613	3
Optics Lab	PY2611	1

## d) Major Courses (48 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Mathematical Methods of Physics I	PY3523	3
Quantum Mechanics I	PY3133	3
Electronics I	PY3713	3
Electronics I Lab	PY3712	2
Statistical Mechanics	PY3143	3
Mathematical Methods of Physics II	PY3533	3
Atomic & Molecular Physics	PY3543	3
Atomic & Molecular Physics Lab	PY3542	2
Solid State Physics I	PY3553	3
Electronics II	PY3723	3
Electrodynamics I	PY3153	3
Solid State Physics II	PY4563	3
Classical Mechanics	PY4163	3
Electrodynamics II	PY4173	3
Nuclear Physics	PY4573	3
Quantum Mechanics II	PY4183	3
Advanced Experiment Lab	PY4xx2	2

## e) Elective Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Elective I	PY4xx3	3
Elective II	PY4xx3	3
Elective III	PY4xx3	3
Elective IV	PY4xx3	3



#### Students can take 4 courses from the given list

Course Title	Code	Cr. Hrs.
Plasma Physics	PY4813	3
Quantum Field Theory	PY4823	3
Electronic Materials & Devices	PY4733	3
Methods of Experimental Physics	PY4583	3
Digital Electronics	PY4743	3
Fluid Dynamics	PY4193	3
Environmental Physics	PY4593	3
Lasers	PY4623	3
Introduction to Photonics	PY4833	3
Introduction to Quantum Computing	PY4843	3
Laser Engineering	PY4633	3
Introduction to Materials Science	PY4323	3
Quantum Information Theory	PY4853	3
Experimental Techniques in Particle & Nuclear Physics	PY4863	3
Computer Simulation in Physics	PY4503	3
Particle Physics	PY4873	3
Introduction to Nano Science & Nano Technology	PY4883	3
Surface Sciences	PY4743	3
Computational Physics	PYMT4063	3

## f) Research Project (03 Cr. Hrs.)

After the completion of 90 Cr. Hrs., the students are required to demonstrate their practical skills in the field of Physics by designing and implementing a research project worth 3 Cr. Hrs.

Course Title	Code	Cr. Hrs.
Research Project	PY4903	3

## Volunteer Service (PY3000)

Each student is required to complete 65 hours community work during the program, which would be a pre requisite for the award of degree.

## **Program Duration**

This is a four years degree program comprising of 8 semesters. There is a Fall and a Spring semester in each year. The summer semester is utilized for improve / repeat / deficiency courses. The maximum duration to complete the BS Physics program is 7 years.



## Scheme of Studies BS Physics

## Semester-I (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PYHU1013	Functional English	Compulsory	3
PYHU1023	Pakistan Studies	Compulsory	3
PYMT1013	Calculus I	Compulsory	3
PYHU1033	Introduction to Sociology	General	3
PY1114	Mechanics	Foundation	4
PY1111	Mechanics Lab	Foundation	1

### Semester-II (20 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PYHU1043	Communication Skills	Compulsory	3
PYHU1053	Islamic Studies/Ethics	Compulsory	3
PYMT1023	Calculus II	Compulsory	3
PY1214	Electricity and Magnetism	Foundation	4
PY1211	Electricity and Magnetism Lab	Foundation	1
PY1313	Physical Chemistry	General	3
PY1123	Waves and Oscillation	Foundation	3

### Semester-III (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PYHU2063	Technical Writing & Presentation Skills	Compulsory	3
PYMT2033	Statistics	Compulsory	3
PYMT2043	Differential Equations	General	3
PYCS2013	Computer Programming	General	3
PY2413	Heat & Thermodynamics	Foundation	3
PY2411	Heat & Thermodynamics Lab	Foundation	1

### Semester-IV (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PYMT2053	Linear Algebra	General	3
PYHU2073	Introduction to Psychology	General	3
PYCS2023	Introduction to Computer	Compulsory	3
PY2503	Modern Physics	Foundation	3
PY2613	Optics	Foundation	3
PY2611	Optics Lab	Foundation	1

## Scheme of Studies BS Physics

## Semester-V (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PY3513	Environmental Physics	General	3
PY3523	Mathematical Methods of Physics I	Major	3
PY3133	Quantum Mechanics I	Major	3
PY3713	Electronics I	Major	3
PY3712	Electronics I Lab	Major	2
PY3143	Statistical Mechanics	Major	3

### Semester-VI (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PY3533	Mathematical Methods of Physics II	Major	3
PY3543	Atomic & Molecular Physics	Major	3
PY3542	Atomic & Molecular Physics Lab	Major	2
PY3553	Solid State Physics I	Major	3
PY3723	Electronics II	Major	3
PY3153	Electrodynamics I	Major	3

### Semester-VII (17 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PY4563	Solid State Physics II	Major	3
PY4163	Classical Mechanics	Major	3
PY4173	Electrodynamics II	Major	3
PY4xx2	Advanced Experiment Lab	Major	2
PY4573	Nuclear Physics	Major	3
PY4xx3	Elective I	Elective	3

## Semester-VIII (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
PY4183	Quantum Mechanics II	Major	3
PY4903	Research Project	Research Project	3
PY4xx3	Elective II	Elective	3
PY4xx3	Elective III	Elective	3
PY4xx3	Elective IV	Elective	3

## **BS Mathematics**

Mathematicians play a vital role in every field. It is the main pillar of every subject. In Faculty of Sciences, we provide state of the art facilities to graduates who opt to study Mathematics. The understanding in this field helps to develop critical thinking and problem solving abilities in students.

## Career Prospects

Mathematics is basically the study of quantity, structure, and change. Those who study Mathematics are known as Mathematics Experts. Mathematicians use variables, products, quantities, and sequences to study number theory and do mathematical analysis. A mathematician must have an analytical mindset to distinguish various patterns, develop research models, and assess demographic trends. Have technical skills when using technology, such as data scanners and graphing calculators. If you create such abilities within yourself, there are many opportunities

waiting for you. At present, there is a large demand for mathematicians in the government and private districts due to increasing technological advances and education awareness. Because of the wide application of Mathematics in various fields, many oil and nuclear industries, operational research companies, engineering, and pharmaceutical companies employ mathematicians.

The fields of space science and astronomy also employ mathematicians along with IT and insurance agents. If you are good at coding and decoding, encryption, and computer skills, there are opportunities in cybersecurity areas. You can work as a cryptographer or a data security analyst. As a mathematician, you can also work in an educational institution as a postsecondary teacher.

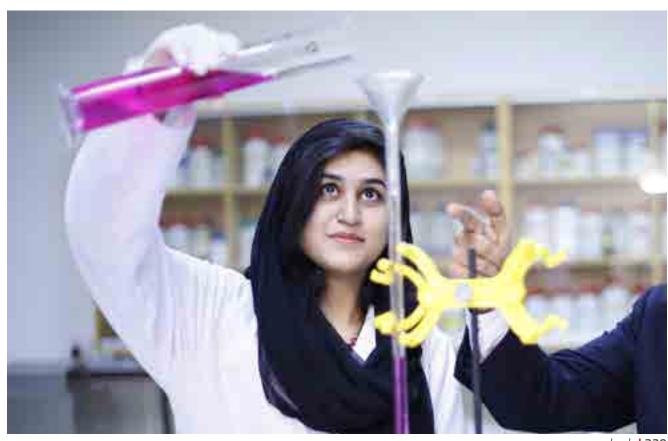
## Admission Requirements

- Intermediate or equivalent with Mathematics securing at least 45% marks in aggregate. In case of foreign qualification, equivalence from IBCC will be required.
- (ii) UCP admission test or HEC approved test.

## Degree Requirements

Each candidate of BS Mathematics degree is required to complete 130 Cr. Hrs. with the CGPA of 2.0 on the scale of 4.0 as per the following detail:

	Area	Cr. Hrs.
a)	Compulsory	27
b)	General	21
c)	Foundation	33
d)	Major	34
e)	Elective	12
f)	Project	3
	Total	130



## a) Mathematics Compulsory Courses (27 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Elements of Set Theory and Mathematical Logic	MT1403	3
Functional English	MTHU1003	3
Islamic Studies/Ethics	MTHU1013	3
Introduction to Computer	MTCS1003	3
Communication Skills	MTHU1023	3
Pakistan Studies	MTHU1033	3
Technical Writing and Presentation Skills	MTHU4053	3
Discrete Mathematics	MT2343	3
Foreign Language (Chinese)	MTEL2003	3

## b) Mathematics General Courses (21 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Mechanics	MT1702	2
Lab (Mechanics)	MT1701	1
Computer Programming	MTCS1013	3
Waves and Oscillation	MTPY1002	2
Lab (Waves and Oscillation)	MTPY1001	1
Statistics	MT1103	3
Introduction to Psychology	MTHU2043	3
Software Packages	MTCS2023	3
Introduction to Sociology	MTHU2063	3

## c) Mathematics Foundation Courses (33 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Calculus I	MT1304	4
Calculus II	MT1313	3
Algebra I (Group Theory)	MT2203	3
Calculus III	MT2324	4
Affine and Euclidean Geometry	MT2333	3
Linear Algebra	MT2214	4
Ordinary Differential Equations	MT3513	3
Algebra II (Rings and Fields)	MT3223	3
Complex Analysis	MT3613	3
Integral Equations	MT4533	3

## d) Mathematics Major Courses (34 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Topology	MT3003	3
Differential Geometry & Tensor Analysis	MT3503	3
Real Analysis I	MT3603	3
Classical Mechanics (MATH)	MT3713	3
Partial Differential Equations	MT3523	3
Functional Analysis	MT3623	3
Real Analysis II	MT3633	3
Numerical Analysis	MT4644	4



Course Title	Code	Cr. Hrs.
Number Theory	MT4413	3
Mathematical Methods	MT4013	3
Probability Theory	MT4113	3

### e) Mathematics Elective Courses (12 Cr. Hrs.)

Course Title	Code	Cr. Hrs.
Elective I	MT4xx3	3
Elective II	MT4xx3	3
Elective III	MT4xx3	3
Elective IV	MT4xx3	3

Elective Courses to be offered (Student take 12 credit hours from Elective Courses)

Course Title	Code	Cr. Hrs.
Advance Group Theory I	MT4423	3
Quantum Mechanics I	MT4723	3
Analytical Dynamics	MT4803	3
Operations Research I	MT4023	3
Theory of Approximation and Splines I	MT4813	3
Advanced Functional Analysis	MT4653	3
Fluid Mechanics I	MT4733	3
Special Theory of Relativity	MTPY4013	3
Advance Group Theory II	MT4433	3
Quantum Mechanics II	MT4743	3

Course Title	Code	Cr. Hrs.
General Theory of Relativity	MTPY4023	3
Operations Research II	MT4033	3
Theory of Approximation and Splines II	MT4823	3
Fluid Mechanics II	MT4753	3
Measure Theory and Lebesgue Integration	MT4543	3
Methods of Mathematical Physics	MT4043	3

## f) Research Project (03 Cr. Hrs.)

After the completion of 90 Cr. Hrs., the students are required to demonstrate their practical skills in the field of Mathematics by designing and implementing a research project worth 3 Cr. Hrs.

Course Title	Code	Cr. Hrs.
Research Project	MT4903	3

## Volunteer in Service (MT3000)

Each student is required to complete 65 hours of community work, usually after 4th semester which would be a prerequisite for the award of degree.

## **Program Duration**

This is a four-year degree program comprising of 8 semesters. There will be a Fall and a Spring semester in each year. The summer semester will be utilized for intern-ship / improvement or deficiency courses. The maximum duration to complete BS Mathematics degree is 7 years.



## Scheme of Studies BS Mathematics

### Semester-I (19 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MT1304	Calculus I	Foundation	4
MT1403	Elements of Set Theory and Mathematical Logic	Compulsory	3
MTHU1003	Functional English	Compulsory	3
MTHU1013	Islamic Studies/Ethics	Compulsory	3
MTCS1003	Introduction to Computer	Compulsory	3
MT1702	Mechanics	General	2
MT1701	Lab (Mechanics)	General	1

### Semester-II (18 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MT1313	Calculus II	Foundation	3
MTHU1023	Communication Skills	Compulsory	3
MTHU1033	Pakistan Studies	Compulsory	3
MTCS1013	Computer Programming	General	3
MTPY1002	Waves and Oscillation	General	2
MTPY1001	Lab (Waves and Oscillation)	General	1
MT1103	Statistics	General	3

### Semester-III (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MTHU4053	Technical Writing and Presentation Skills	Compulsory	3
MT2203	Algebra I (Group Theory)	Foundation	3
MT2324	Calculus III	Foundation	4
MTHU2043	Introduction to Psychology	General	3
MTCS2023	Software Packages	General	3

## Semester-IV (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MT2333	Affine and Euclidean Geometry	Foundation	3
MT2214	Linear Algebra	Foundation	4
MTHU2063	Introduction to Sociology	General	3
MT2343	Discrete Mathematics	Compulsory	3
MTEL2003	Foreign Language (Chinese)	Compulsory	3

## Scheme of Studies BS Physics

### Semester-V (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MT3003	Topology	Major	3
MT3503	Differential Geometry & Tensor Analysis	Major	3
MT3603	Real Analysis I	Major	3
MT3513	Ordinary Differential Equations	Foundation	3
MT3223	Algebra II (Rings and Fields)	Foundation	3

### Semester-VI (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MT3613	Complex Analysis	Foundation	3
MT3713	Classical Mechanics (MATH)	Major	3
MT3523	Partial Differential Equations	Major	3
MT3623	Functional Analysis	Major	3
MT3633	Real Analysis II	Major	3

### Semester-VII (16 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MT4644	Numerical Analysis	Major	4
MT4413	Number Theory	Major	3
MT4013	Mathematical Methods	Major	3
MT4xx3	Elective I	Elective	3
MT4xx3	Elective II	Elective	3

## Semester-VIII (15 Cr. Hrs.)

Course Code	Course Title	Category	Cr. Hrs.
MT4113	Probability Theory	Major	3
MT4533	Integral Equations	Foundation	3
MT4xx3	Elective III	Elective	3
MT4xx3	Elective IV	Elective	3
MT4903	Project	Project	3



**Dr. Ali Faisal Murtaza**Director Research

#### Organization

Research is a tool for building knowledge and facilitating learning. It plays a pivotal role in making universities competitive worldwide. Quality research enables universities to explore organizational and societal issues to identify or suggest solutions. It thus enables the educational sector to perform systematically while continuously improving practices and develop refined understanding related to learning and teaching. With the aim of promoting and strengthening research culture in the university, Directorate of Research is working under Pro-Rector, University of Central Punjab, and is currently chaired by Dr. Ali Faisal Murtaza. The role of the Directorate is primarily responsible for the design, development, management, and control process of research related activities, which makes a stimulating research environment at UCP such that faculty members built their profile and career around impact & market oriented research. With this, faculty members play a critical role in attracting the

students towards research. For smooth processing, the Directorate is directly in communication with the deans of all faculties.

#### Objectives and key Tasks

The key objective of the Directorate is to provide a bridging role for enabling the environment at UCP in which faculty and students can conduct useful research and to remove barriers of research in the university. In this regard, the Directorate always executes three key tasks: 1) to device key policies for the promotion and enhancement of research culture at UCP, 2) to monitor and analyse the research publications of faculties both in terms of quality and quantity, and 3) to absorb criticism/concerns and to listen about observations/feedback of faculty member(s) during meetings and other interactions in order to bring positive change in state of mind of people and university polices for better prospects of their research oriented career.

With an objective of improving the research environment in university, the

Directorate also organizes research activities such as seminars, training workshops etc. to strengthen the research skills of faculty members and students. In any research institution, a tool must be available for continuous monitoring and maintenance of research data of faculty members. For this purpose, a new and comprehensive research portal is devised for faculty members. In addition, multiple hours per week are dedicated for peer-topeer meeting with faculty members of UCP in the context of evolving research policies, guidance, and quality research enhancement. Also, effective communication and correspondence have been developed between faculties, students, key offices (QEC, Dean's Offices etc.), and other stake holders with regard to HEC evolving policies, research grants, and other research related aspects such as yearly research report generation, processing of research incentive for publications and travel grants documentation. Recently the faculty members are strongly encouraged towards drafting a quality



research proposal and participation in the research grants of different funding avenues.

Furthermore, the directorate develops a direct channel of communication with library staff in the context of plagiarism related guidance, plagiarism policy, and registration of thesis in HEC repository. In addition to this, the directorate has also performed a detailed universitywide research publication analysis in order to determine the annual research performance of the university and to plan future strategies accordingly. All these activities and efforts of Directorate are generated with an aim to increase number of recognized research publications of university and to produce quality post graduate students.

#### **Achievements**

Directorate of Research is continuously performing its role to enhance and ameliorate research and development in the university. The achievements of the year 2019 are as follows:

*In order to encourage the faculty* members on publishing quality research work in impact factor and HEC recognized journals, the research publication remuneration policy has upgraded. In year 2019, faculty members from all faculties contributed in more than 380 publications, which include impact factor & HEC recognized journals, local & international conferences, abstracts, and book chapters etc. Till 2019, the faulty members of UCP, through their expertise, research and innovative proposals, have secured a research grant of nearly 30 Million PKRs from different funding agencies.

#### **Future Direction**

Directorate of Research is working with the aim of establishing and rejuvenating research culture and the ultimate goal is to keep on improving the university standing. In reference to this, followings are the future direction of the directorate:

1) Effective and capable research groups of each and every faculty will be established

- 2) More encouragement will be deliberated in the generation of innovative research proposals
- 3) Participation will be encouraged in the call of research grants from different avenues
- 4) Support to the prominent research labs/centres will be enhanced for their progression
- 5) To ensure HEC approved PhD faculty for supervising post-graduate research students
- 6) Emphasis not only in publications but also in the citations

This will eventually lead us to meet the key performance indicators of internationally ranked universities. Moreover, the objective of the directorate is to continuously update the research policy of the University according to international standards of research.



# Office of Research, Innovation and Commercialization (ORIC)

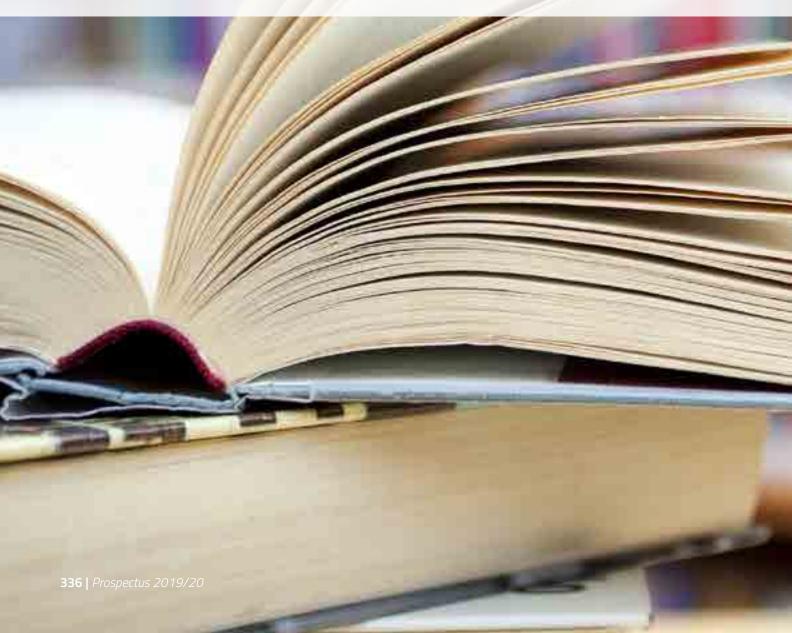
The office of Research, Innovation and Commercialization (ORIC) was instituted in January 2016 at University of Central Punjab. The university supports innovation in research and the ORIC helps faculty, students and staff to patent their products. Top most priority of ORIC is to develop and sustain a dynamic and internationally competitive

research in the University that makes a major contribution to economic prosperity, national well-being and the expansion & dissemination of knowledge.

#### Objectives of ORIC

The ORIC seeks to enhance the conducive environment for research by:

- 1. Supporting the University's research directions and policies
- 2. Increasing and diversifying external research funding
- 3. Improving recruitment and retention of top faculty
- 4. Research and education at all levels
- 5. Improving translation of research into public benefit



- 6. Strengthening University-Industry relationship
- 7. Promoting entrepreneurship, technology transfer and commercialization activities to energize and support the local and national economy
- 8. Enhancing cross-cutting and multidisciplinary research promotion and initiatives

### Functions of ORIC

A) ORIC facilitates the researchers by seeking grant from donor agencies to get research projects, travel

- grants, workshops, seminars and conferences
- B) ORIC disburses research incentives among researchers to promote research culture and acknowledge their research contribution
- C) ORIC functions as mediator between agencies and the university regarding university ranking assignments
- D) ORIC functions as mediator between HEC and the University to develop subject level data base
- E) ORIC also maintains the records

- of grants acquired, publications and guides on ethical approval. It also facilitates faculty in matters relating to contracts/agreements sign off, Material & Data Transfer agreements, innovation and patenting in consultation with legal office
- F) ORIC helps to foster and reinforce university-industry affiliations.
- G) ORIC promotes and encourages multi-disciplinary research within and outside the university.





Uzair Shahid Manager Takhleeq

# Takhleeq **Business Incubator**

The University of Central Punjab is dedicated to not only produce globally-competitive professionals but also innovative job creators. Takhleeq Business Incubator is the epicentre of creativity, innovation and entrepreneurial activities at UCP. Housed in a state-of-the-art facility, Takhleeq runs a world-class incubation program, organizes events and lectures on entrepreneurship, and creates national and international linkages to support entrepreneurs of UCP. Driven by our vision of creating ethical business that propel positive change in the society, Takhleeq is always a buzz with creativity, optimism, and positive energy.

Takhleeq Business Incubator provides a platform to determined entrepreneurs and innovative start-ups to make their business ideas a reality. At the heart of this is our 6-months incubation program for UCP students, faculty members and alumni who



own business ventures. This rigorous mentoring and training program empowers participants to start, run and grow their businesses. We take care of all the teething problems that an early stage start up encounters -- from business advice to branding, marketing, customer development, and legal guidance. Focused mentor engagements with industry specialists and seasoned entrepreneurs prepare start-ups to a point where they begin to explore and seek investment. Takhleeq also offers matching grants for prototype development and essential government expenses incurred by startups. All of these services are provided at no charge to start-ups incubated at Takhleeg.

Takhleeq is also involved in creating a fertile ground for innovative entrepreneurs at UCP. Working alongside The Entrepreneurship Society, the Student Council and various faculties at UCP, Takhleeq hosts guest lectures, seminars and workshops open to all students, faculty members and alumni to provide inspiration and practical tips for starting their own businesses.

Collaboration and networking is the key to growing any business in today's global economy. Takhleeq is a member of prestigious Frontiers Incubator, a network of business incubators and accelerators in the Asia-Pacific region. Also a member of UBI Global's Interactive Learning Community of Innovation Experts. This community provides the best practices on crafting an impactful innovation program in a university. Takhleeq, being a member of Impact Network Pakistan, also plays a major role in spreading awareness on key focus areas where entrepreneurship can have a massive impact. These partnership has resulted in giving Takhleeq and start-ups access to a global network of trainers and investors.

Through hard-work, persistence and creative problem solving, companies incubated at Takhleeq have gone on to create amazing products and services. Chemeleo (formally Zaps) creates shoes for men and women with interchangeable tops. Pukaar Community has a mobile app connecting psychologists and patients, improving mental health in society. 'Wonder Women' a start-up that has developed a vending machine to be placed in washrooms to dispense sanitary napkins, hence providing hassle free access for females.

Takhleeq also offers a full-time

fellowship for students interested in joining the entrepreneurship eco-system. Takhleeq Fellows are ambassadors of Takhleeq in the student community, where they drive various projects for student engagement, conduct original research and work with start-ups to advance their goals. Student interns are also engaged at Takhleeq to hone their skills in content writing, business development, graphic and creative design and community outreach.

We recently transformed our cafe into a Cafe Incubator, where UCP's food entrepreneurs are provided a platform that equips them with the best practices of running a successful food business.

UCP and Takhleeq believe in a bright future for Pakistan, supported by vibrant, ethical and innovative business. We believe in the power of social entrepreneurship to propel our economy and social forward. We are committed to nurture and facilitate determined entrepreneurs who are driven to solve our local problems by investing their energies into innovative local solutions.





**Numan Shahid** Deputy Director

## Introduction

University of Central Punjab (UCP) laid the foundation stone of Quality Enhancement Cell (QEC) in 2012. In these progressive nine years, QEC has been evolved as a core functional unit of the UCP with the highest category of "W" awarded by HEC. QEC at UCP is not only working to assure and enhance the quality of education but also strive to continually improve other administrative and support services. Its key role is planning, guiding and monitoring Quality Assurance (QA) and Quality Enhancement (QE) activities of the university.

QEC is actively involved in various activities taking place at UCP, including

faculty development, improving learning and teaching standards, determining stakeholder satisfaction, appraisal of undergraduate, graduate and postgraduate degree programs and refining the support processes. The multi-pronged strategy of QEC helps the university to focus on following three broad areas:

- **1. Planning:** Annual and long-term planning to set goals and action plans for the quality of teaching, learning and research.
- 2. Assurance: Review of procedures and practices, both periodic and continuous at Departmental, Faculty, School and University levels to assess the quality of teaching, learning and research.



3. Responsibilities: TTo monitor and review the role and responsibilities of teachers, individual staff members, Academic Heads, Deans of Faculties and Directors.

QEC at UCP operates through a stated vision, mission, objectives and clearly defined functions and structure.

## The Vision of QEC is

""To make Quality a defining element of higher education at UCP through self and external quality evaluation and with unique and differentiated initiatives".

## The Mission of QEC is

""To cultivate the seed of quality education with continuous improvement, hard work and patience"

## Objectives of the QEC

- To promote Quality and Assessment culture for continuous quality improvement.
- To take initiatives for Capacity Building (Faculty Development & Institutional Development).
- To monitor and evaluate the progress of each Academic & Administrative Departments of the university through conducting

- periodic surveys and sharing findings.
- To obtain Accreditations from National & International Quality Assurance Bodies.

## Functions of QEC

QEC Team: **Numan Shahid**, Deputy Director Shazia Qasim, Assistant Director Gulfam Ahmad, Manager Research

## Functions of QEC at UCP

QEC is responsible for the review of quality standards and the quality of teaching and learning in all each



subject area.

- QEC is responsible for the review of academic affiliations with other institutions in terms of effective management of standards and quality of programs.
- QEC is responsible for defining clear and explicit standards as points of reference for the reviews to be carried out. It should also help the employees to know as to what they could expect from our graduates.
- QEC is responsible to develop qualifications framework by setting out the attributes and abilities that can be expected from the holder of a qualification, i.e. Bachelors, Bachelor with Honors, Master's, M. Phil. and PhD.
- QEC is responsible to develop program specifications. These are standard set of information clarifying what knowledge, understanding, skills and other attributes a student will have developed on successfully completing a specific program.
- QEC is responsible to develop

quality assurance processes and methods of evaluation.

## Structure of QEC

To ensure the fulfilment of functions specified by HEC, the structure and function of QEC has been evolved progressively since 2012. QEC consists of mainly three divisions:

#### 1- Academic Quality Division

This division intends to improve the standard of academic quality by developing a healthy liaison with HEC and with all faculties of UCP. Most of the projects, which are currently executing under QEC, are major part of it. These include:

- 1. Self-assessment cycle
- 2. Self-assessment procedure
- 3. HEC MS/M.Phil. & PhD program reviews
- 4. HEC MS/M.Phil. & PhD program review internal audits & mock exercises
- 5. NOC of any new MS/M.Phil. & PhD programs from HEC
- 6. National & international rankings

- (HEC, QS<mark>, Tim</mark>es Higher Education)
- 7. Endorsement for establishment of new faculty or program
- Institutional performance evaluation (IPE)- university portfolio report (UPR)
- 9. Liaison with HEC, PHEC and other government offices
- 10. Liaison with national & international accreditation& professional bodies & implementation of their policies
- 11. Participation in statutory bodies meetings
- 12. Organization and participation in national & international conferences
- 13. Participation in HEC and PHEC Quality Assurance meetings

Other than aforementioned tasks, all processes, which are under the domain of academia, need to be formulated and validated by this division.

#### 2- Data Analytics Division

This division intends to collect and analyse the data and come up with various reports, which are used to



services. The core projects of this division include but not limited to formulation and conduction of online surveys and drawing inferences. These surveys may include:

- Student Satisfaction Survey
- 2. Faculty Satisfaction Survey
- 3. Alumni Survey
- Employer Survey
- 5. Survey of Graduating Students
- 6. Course and Teachers Evaluation Survey
- 7. Progress Review of Research Students
- Food Quality Survey
- Library Satisfaction Survey
- 10. Market Survey about UCP

Some of the results from aforementioned surveys are used in SARs, so strong integration of data analyst with all three divisions is paramount to optimize the results. Apart from this, there are many avenues where survey results give us the factual data to base our decisions e.g. students view in discounting &

scholarship policy, faculty view in terms of faculty development etc.

#### 3- Service Quality Division

This division intends to improve the quality of services being provided by different departments of UCP. To assess and improve the services by integrating with main owners of processes, these may include:

- 1. Interaction of Potential Students with Admissions' Department
- Interaction of Visitors/Parents with Guards at Gate
- Interaction of Students with Registrar Office and with Accounts Department
- 4. Making Flow Charts of Unframed Service Processes
- Services for Students in terms of Counselling (Faculty counselling hours)
- Services in Student Cafe as well as in Faculty Lounge
- 7. Services of Parking Lots
- Feedback surveys from potential stakeholders regarding UCP services

Moreover, new initiatives may include Set-Up of Students Facilitation Centre/ Desk to take care of inquiries from current students. One student desk can accommodate at least two major faculties.

A key feature of quality assurance here is the fitness for purpose, and this touches all aspects of the university's operations, from learning and teaching to the leadership and administrative features. Rigorously operated, QEC at UCP has enabled the university to get:

- A) Approval of all its programs from accreditation agencies and councils
- B) NOC of all its MS/M. Phil. and PhD **Programs**
- For the first time UCP is credited among, top 500 QS Asian ranked universities
- QEC at UCP have been awarded highest "W" category by HEC
- In first ever Program Review HEC Quality Assurance Agency Team have approved all UCP MS/M. Phil. and PhD programs



# Volunteers in Service (VIS) Department

"Generating humans in this mechanistic and materialistic world

UCP VIS is the National Representative in Pakistan for International Association for Volunteer Effort (USA), founding member of Punjab Volunteer Network with United Nations Volunteers (UNV) and member of United Nations Academic Impact (UNAI)"



**Dr. Ather Azim Khan**Director VIS, UCP

In a world of crass materialism, the need to inculcate selflessness and social conscience for the uplift of less privileged is indeed worth striving for. In this context, it is an honor for me to be a part of the UCP-VIS Department that promotes the idea and spirit of volunteerism among the youth through VIS Program. UCP is a pioneer higher education institution in South Asia to start such a vast and well organized program for promotion of volunteerism among youth. Whatever is my

humble contribution over the last many years towards the VIS Program, it gives me great joy and satisfaction to observe its success in inspiring people to sacrifice their time, energy and resources for uplifting their deprived brethren. I have seen the fruits of this program in the form of social awareness. This program lights the spark of care and concern for others that every human being has in him/herself.

Volunteers are a blessing in this world,

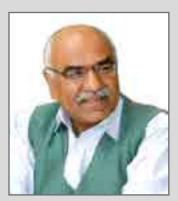


where very few can see beyond their own-selves and interests. As Dr. Albert Schweitzer once put it, "Just do what you can. It's not enough merely to exist." This describes the true spirit of volunteerism for the common good. Volunteer work is going beyond yourself and reaching to the poor and deprived and seeking return from the heavens.

As approved by the worthy Chairman

Main Amer Mahmood, the department has expanded its operations to other set-ups of Punjab Group of Colleges. VIS department has been established at Capital University of Science and Technology (CUST), Islamabad that has started engaging CUST students as volunteers with social sector organizations and campaigns. Similarly, VIS department has also been established in Muhammad Ali Jinnah

University (MAJU), Karachi. VIS will further be expanded to Punjab Colleges and Allied Schools in near future.



**Dr. Amjad Saqib**Consultant VIS, UCP

In a very unique way, University of Central Punjab has embedded the idea of volunteerism in its educational system. It has a multi-dimensional effect on students individually and on society as a whole. It provides an opportunity to the privileged youth to see the other side of life, for example poverty, hunger, disability, disease, illiteracy, injustice, child labour, lack of basic needs, inequality etc. and then endeavour to eradicate these evils.

VIS department has grown manifold not only in terms of the number of volunteers and partner organizations but has also grown into a very well developed Volunteer Engagement Program over the years. Volunteering is also the need of the hour. My association with UCP and its volunteers is about a decade old

and we appreciate the way UCP volunteers support the noble endeavours of Akhuwat in poverty alleviation and many other partner organizations in their respective goals of public welfare.

We can modestly claim that collectively some good work has been accomplished. I pray and hope that this initiative of UCP may flourish even further and that the results envisioned by the Chairman Mian Amer Mahmood are achieved in letter and spirit, and above all in making a difference in the lives of the people on ground.

"There are so many ways to develop yourself; one is to contribute in the development and welfare of others who need your support."

# Volunteers in Service (VIS) Program

A Program that Takes Students through a Streamlined Process to Become Socially Responsible Citizens

## Volunteers in Service (VIS) Program

To shape up our students into responsible citizens of community, Volunteers in Service (VIS) program was launched in spring 2007. VIS department was established to run this state-of-the-art program. By virtue of VIS program, every student is required to perform volunteer work before graduation with one or more of the renowned partners of VIS department. These partners include local and international organizations such as NGOs, NPOs, Hospitals, Rehabilitation Centers, Formal and Non-formal schools etc. Some of our partner organizations are UNAI, IAVE, WWF, Shaukat Khanum Cancer Hospital, Akhuwat, Rescue 1122, Care Foundation, Fatimid, National Hospital, Shalimar Hospital and many

others.

By now, more than 20,000 volunteers have completed their VIS requirement with an average of 1,700 volunteers annually. VIS department also plans, designs and executes various campaigns with or without its partner organizations. In September 2011, our volunteers sprayed Dengue preventive chemicals in more than 1,000 houses and provided Free Diagnostic Test to hundreds of people who were unable to afford the test expenses. In support of Akhuwat Clothes Bank, UCP Volunteers have contributed more than 85,000 pairs of clothes. They have also donated 1500 blanket and 5000 jerseys to earthquake and flood victims of Chitral in 2015.

Various trainings, workshops and

seminars are also arranged for our volunteers to sensitize them on numerous issues like Human Rights, Peer Education, Active Citizenship, Peace and Social Cohesion etc. and Documentary Making on Social Issues with partners like British Council, Youth Parliament of Pakistan, Interactive Resource Center (IRC) and MTV Staying Alive Foundation etc.

Our Volunteers have worked in VIS department's campaigns against Dengue, Breast Cancer Awareness, "Deeware-Aagehi" (Wall of Awareness), Clean Pakistan, Flood and Earth Quake Victims' Rehabilitation etc. Volunteer efforts of our students are highly appreciated by many, as Lt. Colonel Mohsin Ehsan, Wing Commander, 5-Wing, Desert Rangers, during our campaign for the flood victims,



wrote, "The enthusiasm I saw in UCP Volunteers was contagious. I am deeply moved by their commitment, discipline and passion that fuels their efforts and the happiness which shows on their faces while doing their bit. We have seen a hitherto hidden aspect of student philanthropic spirit today."

## National Representation and International Memberships

VIS department has won two international memberships in 2017.

# United Nations Academic Impact (UNAI)

United Nations Academic Impact has awarded its membership in 2017 to UCP on the basis of VIS department, its activities and the impact on society.

## International Association for Volunteer Effort (IAVE), USA

International Association for Volunteer Effort (IAVE) is a USA based network of organizations and institutions working for promotion of volunteerism and having impact on social development. IAVE USA has awarded membership to UCP keeping in view VIS department, its impact on social development and volunteerism.

## National Representative in Pakistan for International Association for

#### Volunteer Effort (IAVE), USA

UCP-VIS has also been declared as National Representative in Pakistan for IAVE USA since 2019.

## International Recognition of "Wall of Awareness Campaign" of VIS

Deewar-e-Aagehi (Wall of Awareness)
Campaign has been covered by
international network Volunteer 2030
on their website https://volunteer2030.
org/ as the main page story. It can still be
found in their Archives section.

## Punjab Volunteer Network (PVN)

VIS department has joined hands with United Nations Volunteers (UNV) to form a provincial level network for promotion of volunteering by the name of Punjab Volunteer Network (PVN). The network aims at not only advocating for implementation and infrastructure for volunteering at Government level and providing volunteer opportunities to youth all over Punjab.

## Global Volunteering Initiative (GVI - UCP)

VIS department has finalized 3 International Volunteer Exchange Programs with the following in 2019:

- Chulalongkorn University, Bangkok, Thailand
- 2) Volunteering Taiwan, Taiwan
- 3) University of Philippines, Philippines.

4th program is in process with Emirates Foundation, UAE. GVI – UCP will start working from Summer Vacations 2020.

#### Features of the Program

All students are required to contribute either 65 hours' regular volunteer work or participate in some special campaigns designed by VIS department as a prerequisite for earning their transcript and degree. The regular volunteer work is mostly in the ongoing welfare activities with our partner organizations, while special campaigns are with or without collaboration of our partners. The campaigns may range from Awareness and Preventive campaign, Breast Cancer Awareness Seminars to Plantation Drives to organizing Free Health Camps in less privileged areas.

Volunteers go through a complete and streamlined process to become Responsible Citizens. The detailed process of volunteer work can be seen at the UCP website. We regularly honor and greet our volunteers by awarding certificates in ceremonies graced by



eminent personalities of the society. Our volunteers also contribute by making documentaries and dramas on social themes to bring awareness in the society.

#### Partnering with VIS

VIS department has 165 partners, which include 33 Hospitals, 13 Schools, 6 Rehabilitation Centers and 113 NGOs. VIS department has both National and International partners. International organizations like World Wildlife Fund (WWF) and VSO International are partners with VIS department while many other partnerships are in process.

VIS department partners with national or international civil society / social

sector organizations / non-profits after reviewing their profiles and having at least two formal meetings with the authorities of the concerned potential partner organization.

Through its enriched activities, VIS represents a very distinctive characteristic of UCP. It develops students into wellgroomed and cultured human beings and also addresses the requirements of society, which is dire need of caring and responsible individuals.

#### Community Services Club

VIS department also looks after Community Services Club that includes 5 sub-sections:

- 1) Catalyst
- 2) **Environment Protection**
- 3) Character Building
- 4) Inclusive Students
- 5) Disaster Management

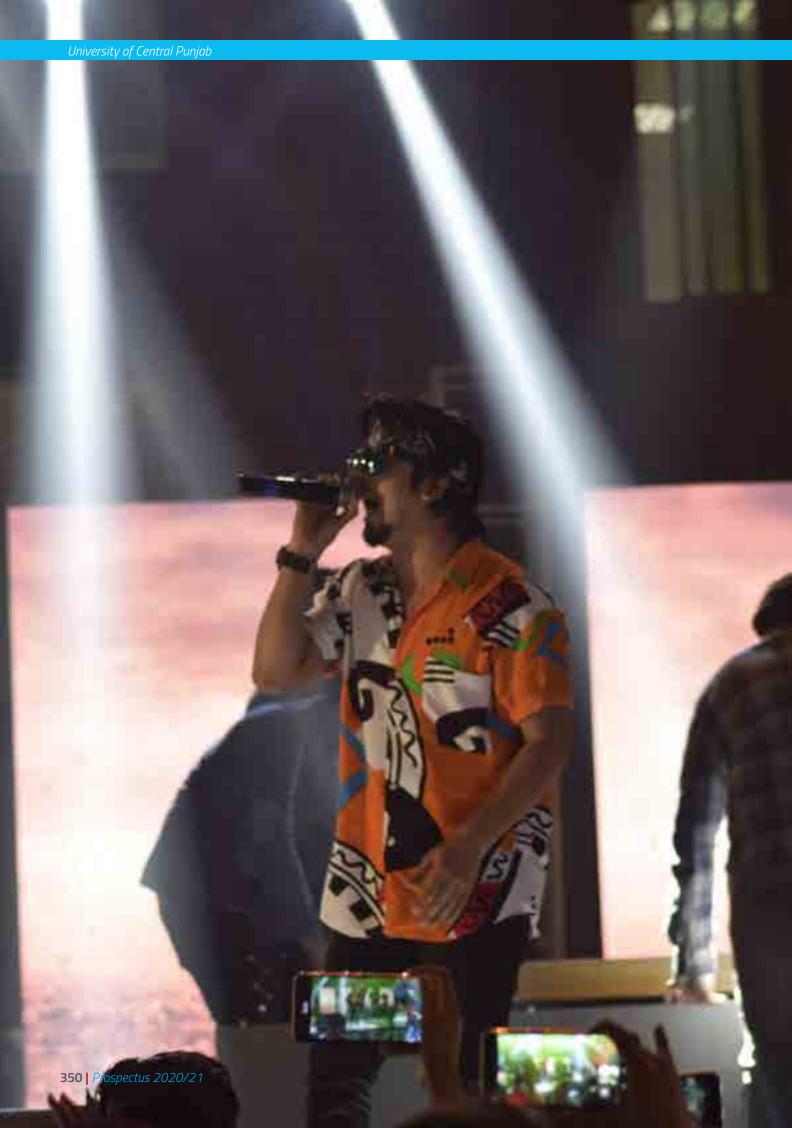
All of these work on difference aspects of Social Development under Sustainable Development Goals (SDGs) of United Nations.

For further information: vis.ucp.edu.pk











# Student Affairs

As Head of the Student Affairs Office, at the University of Central Punjab, I welcome you all to this great centre of learning. It is the aim of my Office to ease your transition into University life and cater to all your needs make your time at UCP, memorable and enriching. I strongly encourage all students to contact me or any other member of the Student Affairs Office regarding any concerns that you may have. I hope that through these interactions, we will be able to learn from each other and help develop a thriving community.

Mohammad Raza Director, Student Affairs

## Student Affairs Office

The Office of Student Affairs strives to work with the vibrant student community at UCP and help students overcome any problems that they may face during their time at university. The Office, alongside developing institutional linkages, is committed to providing our students with a wide range of learning opportunities and engaging activities to add to their university experience. To encourage greater student participation in outside classroom activities, the university offers students through its clubs and societies a wide range of extracurricular activities from athletics to debating to music. The clubs and societies are run entirely by students with guidance from society Patrons and the Student Affairs Office. Student Affairs office is also responsible for organizing events including but not limited to Convocations, International Conferences & Excursion Trips and the Sports Gala. We, here at the Student Affairs office are available to listen to students' concerns, address them and also provide counselling services to help students overcome any and all hurdles that come their way.

## National & International Events

- UCP Taakra
- International World Scholars Cup
- Session on the Revival of Rumi's Legacy
- Intervarsity Debating Championship
- Intervarsity Battle of the Bands
- Model United Nations
- JZT Fun Run

- Intervarsity Flood Light Cricket Gala
- Seminars on Clinical Psychology

#### **Achievements**

- University of Central Punjab won "LAPS" (LUMS Annual Photography Summit 6.0) overall LAPS Title & Product Photography in 2019
- University of Central Punjab secured
   1st Position in LUMS Music Fest
- UCP Secured 2nd Position at "Economist Of The Year'19", held at Forman Christian College
- UCP secured 1st Position and won best "Script Award" at Mock Trial Competition (Jehd'19) in GCU-FSD Government College University, Faisalabad
- University of Central Punjab secured 1st Position in Gaming Competition, 2nd Position in Robo Maze and Project Exhibition in NASCON'19 held in FAST-NU.
- UCP secured 1st position in Black & White & 3rd position in Landscape and Architecture at King Edward Medical College Photography Competition
- UCP won "Best Delegation" Trophy in Umeed-e-Sehar held at Gomal University, DI Khan
- UCP secured 2nd Position in "International Moot Court Competition" 2019 held at LUMS
- UCP won "Best Delegation Trophy" in UOL Tech Olympiad at University of Lahore







- UCP won Runners-up trophy in Individual Singing Competition "All Pakistan Music Fest 19" in University of Lahore
- President of UCP Debating and MUN Society represented UCP in IOMUN, Romania (Romania International MUN) as Chair of the Conference
- President of UCP Debating and MUN Society represented UCP in ITUMUN, Turkey (Turkey International MUN) as Chair of the Conference
- UCP won "Best Team Trophy" (29 Trophies in 33 Competitions) at BNU Bestival'20

## International Excursions

Like other proud traditions, UCP provides National and International excursion to Students. Students avail International exposure along with earning certified courses to excel their Communication as well as leadership skills. In the past UCP has visited UK, Netherlands, Germany, France, Australia, South Africa, Malaysia, Switzerland, Turkey, Italy etc.

## National Trips

UCP Adventure Club organizes National Trips for UCP students to explore the beauty of Pakistan.

# Societies' External Participations

- HEC Sports Competitions
- International Tours
- BNU Bestival
- FAST Sports Challenge
- LUMS Olympiad

- Model United Nations
- Intervarsity Dramatics Competitions
- Intervarsity Parliamentary Debates
   Competitions
- Intervarsity Declamation Competitions
- Business Plan Competitions
- Intervarsity Singing Competitions

## Patrons & Societies

Ushers Club

Mr. Shumail Khan

Sports Club

Mr. Nouman Azeem, Manager Sports

Nisa Society

Ms. Huma Nadra, Director ELC

Society of Law

Ms. Fareeha Khalid, FOL

Society of Life Sciences

Dr. Javed Igbal, FLS

Adventure Club

Mr. Fahad Anees, FMCS

The Entrepreneurship Club

Mr. Uzair Shahid

Performing Arts

Ms Hina Adeeb

Engineering Club

Mr. Nabeel Khalid, FOE

IT Club

Dr. Syed Atif Mehdi, FOIT

**Debating & Model UN** 

Dr. Syed Karrar Haider, FOIT

Community Services

Mr. Hamad-ur-Rehman, DD, VIS

Health Club

Dr. Irfan Bashir, FOP

Liberal Arts Society

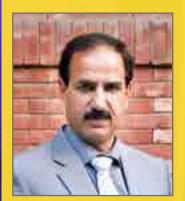
Ms. Atoofa Najeeb, FASS

**Business Executive Club** 

Mr. Kazim Ali. FOMS







Mr. Arshad Sattar Director, Sports

## Sports Department

UCP has always promoted extra-curricular activities among the students and sports has always been given high importance when it comes to extra-curricular activities. UCP provides state of the art facilities to the sportsmen along with highly skilled supervisors and coaches that carve the path for them to achieve excellence and become champions tomorrow.

Some highlights of the sports activities include league tournaments of badminton, basketball, cricket, hockey, soccer, table tennis. Apart from an on campus activities, students take an active part in intercollegiate tournaments such as cricket, badminton,

tug of war, table tennis etc. Not only in intercollegiate tournaments, UCP has also achieved prominent position in the history of Inter University Sports Championships and has retained HEC General Trophy for past Seven Years. This would be a sign of pride that most of the sports members of University of Central Punjab are representing Pakistan at National and International Level. UCP Sports Club makes sure that students at UCP are not just mentally healthy but also physically active through different sports activities. UCP Sports club also provides the membership of Gym facility, Swimming Pool and other Sports Facilities to the students each semester.

## The Trophy Comes Home for the 7th Time!

Maintaining the legacy of winning, the phenomenal sportsmen of UCP clinched the General Trophy of HEC for the 7th time consecutively, beating 150+ Public and Private Universities of Pakistan, they also accomplished to win the All Pakistan HEC Intervarsity Sports Championship 2017-18. This year, in the All Pakistan Higher Education Commission Sports Championship Competition, the University of Central Punjab secured 1st Position in 22 games, 2nd in 4 games and 3rd in 2 games and won 216 gold medals, 46 silver medals and 10 bronze medals, that helped them lift the trophy once again and set the record of becoming the 1st private sector University

to win the All Pakistan Intervarsity Sports Championship for the seventh time in a row.

To cherish the great success,UCP organized the event "Trophy Comes Home" on 11th July, 2018.Mian Amir Mehmood, Chairman Board of Governors, Prof. Sohail Afzal, Executive Director PGC and Dr. Zafarullah, Pro Rector UCP awarded cash prize of Rs.1,000,000/- among Muhammad Inam Butt, Tayyab Raza and Muhammad Bilal Butt, the winners of Commonwealth Games 2018 (wrestling) whereas cash prizes of more than Rs.10,000,000/- were distributed amongst the players of HEC Sports Winners.







# Career Services Office

#### About the CSO:

In order to keep up with the changing trends in employment and education, the Career Services Office at UCP is geared up for a seismic change in student readiness for their journey beyond university. The Career Services Office provides the students of UCP the avenues to explore and secure better employment in better companies, more opportunities for exposure through foreign education and a strong kinship with the institution. The department is structured in a way so as to cater to the requirements of students as well as alumni with varied interests. Following are the focus areas of the department:

#### Placements:

Under this wing, our focus is on facilitating the students' journey through and the process from 'seeking' to 'placement' for internships and employment. We get students job-ready and overlook their transition from student to professional by providing professional coaching.

## **Continuing Education:**

The Continuing Education vertical focuses on enabling students to scope out local & international opportunities for further education & student exchanges. We evaluate program options, advise students about programs or degrees that could be most beneficial for a chosen career or personal goal as well as assist them with the application processes.

#### Alumni Relations:

The Alumni Relations vertical focuses on the promotion of UCP's legacy, leveraging connections for existing students' mentor-ship, guidance, and placements. We ameliorate the UCP experience for alumni, beyond the walls of the university's campus and develop a strong network of alumni to increase capacity and knowledge sharing.

#### Alumni Council:

This is a self-governing alumni body to be formed after conducting constitutional elections for officiating positions in the council. The Council will be run by alumni who will work towards improving and strengthening UCP's alumni network and the bond between the university and its graduates.



# UCP English Language Centre (ELC)

The English Language Centre (ELC) was established in June 2019 and started offering classes from October 2019. The ELC catered to 5862 students across 8 Faculties during the Fall 2019 semester and this number is continuously growing. The Centre aims to enhance students' language and critical thinking skills to enable them to competently cope with the course material in English, across disciplines.

To ensure that the students are acquiring the required academic skills, the curriculum is regularly reviewed and revised according to the emerging learning needs. The ELC encourages the use of the blended approach through Skill based Language Teaching in the courses being offered. Student's progress is monitored through continuous assessments throughout the semester.

Student support is supplemented through the Language Skills Centre, based on a blend of a Language Lab and a Self-Access Centre model, to improve the students' English language proficiency. Students can enroll in the Skills Centre through referral as well as by their own choice. Their progress is charted through portfolio assessment.

Pedagogy is key to fostering effective learning. The ELC provides teachers opportunities for Continuous Professional Learning and Development to enhance the teaching-learning process at UCP. For this purpose, a Mentoring Team of experienced teachers is in place who works on improving teaching quality through observation and feedback.

The Centre prides itself in building strong academic local and global linkages and the instructors at ELC are engaged in research projects at both national and international levels.

To promote a learning culture, the ELC organizes workshops, seminars, conferences, webinars, and discussion forums that offer sustainable learning environment to teachers, envisioned in the betterment of the students at UCP.

*In order to provide strong cross* functional support, the ELC Team extends editing support to various departments as required. They also work closely with the Career Services Office to help students in resume writing.

The ELC welcomes all new entrants and hopes to continue to make a positive difference and help maximize the learners' potential at the University of Central Punjab through its future activities.



# The UCP Alumni Association

The importance of Alumni/ Alumni Association is recognized by the management of the universities worldwide. We, at the Alumni Relations Office are committed to keeping the UCP alumni connected to the University by engaging them in various activities of the university. We hold meetings with alumni on a regular basis.

Senior alumni actively participate in the activities related to the grooming of students ranging from mannerism & etiquette to professional grooming i.e. CV writing, interview skills, writing a covering letter etc. Students get the opportunity to learn from the experience of alumni which is helpful for them later in their professional lives.

# Graduates of **22<sup>nd</sup> Convocation 2019**









# University of Central Punjab

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