



# Prospectus 2021-2022

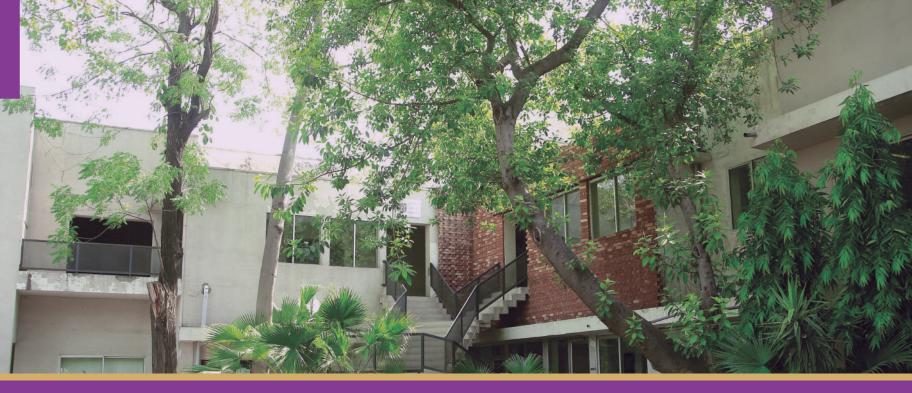
**National College of Business Administration & Economics Government Chartered** 

HEC Ranked 2<sup>nd</sup> Best

Business School in Punjab for Consecutive 2 Years (2012 & 2013)







#### Vision

Founded to inculcate the principles of intellectual curiosity, innovation and Integrity, NCBA&E aims to lead Educational Institutions in both teaching and research, creating an environment where individuals can develop the skills to contribute to their family, society and Pakistan as a whole.

#### Mission

To provide an education through which students can embellish their skills and prepare themselves for the hands-on challenges at work. To, through our distinguished and versatile faculty, guide students through the rigor of their academic years, both at Graduate and Undergraduate levels. And to champion the virtues of Knowledge, Wisdom and Creativity so that our students can gain the abilities to prosper in their careers.

# Mian Shamim Haider Founder



#### Message

The twenty-first century promises to be a tremendous experience for our youth in terms of it's vitality, vigor and speed. To overcome all the challenges and to get into the opportunities on the plate, NCBA&E is keen on developing professionals, entrepreneurs, business executives, IT professionals, managers and artists who are well versed with the impulse of the market. We have a state of the art facility that brings not only the synergy among the faculty and administration but also take their efficacy and prowess to the next level. The dedication shown by the faculty and staff instantly inspires the students to broaden their horizons.

I take this opportunity to thank our patrons for joining forces to develop the capabilities of our young generation.

# Mian Shahid Ali Haidar Chairman Board of Governors



#### Message

The National College of Business Administration and Economics (NCBA&E) enjoys a great reputation in Pakistan. Having overwhelming experience in business, computing and social sciences. We are proud to have an alumnus network of over twenty-five thousand professionals overseeing academia, industry and nonprofit organizations both within Pakistan and abroad. Our unwavering commitment to providing the latest and most relevant skills for a rapidly changing business environment is accentuated in the performance of our highly competent graduates. To ensure we continue in this vein, we have been constantly upgrading the facilities to exemplify our faculties and departments. As Chairman of the Board of Trustees I am committed to provide the best higher education experience at affordable prices. I am sure our methodical approach will resonate with the masses and allow us and our students to join forces for the betterment of the economy and our Nation.

# Prof. Dr. Muhammad Saleem Khan Rector NCBA&E



#### Message

National College of Business Administration and Economics(NCBA&E) was established in 1994 and rated the "W" category by HEC in 2012-2013. Currently, NCBA&E has two schools: the School of Business Administration, The School of Computer Sciences, and Faculty of Social Sciences. These schools and Faculty of Social Sciences cover a vast range of disciplines and offer market-valued undergraduate studies, graduate studies, and post-graduate studies programs.

We impart quality teaching and state—of—the—art facilities proving ourselves a vibrant center of excellence. We always indulge our efforts to produce diverse students and play a vital role in a better tomorrow. We are committed to excellence in academics and knowledge exchange with Entrepreneurial and Socio-Economic activities. We believe that an academic institution should be based on three pillars, one is academic and research, and the other two are extra-curricular and sports activities.

NCBA&E is an institution that provides a high level of ability, motivation and cultivates persons with good behavior and attitude. We pursue our mission with courage, innovation, and pluralism. We provide a balanced lifestyle with an outstanding array of social, cultural, and sports environments. Our students are emerging leaders cultivated for a better tomorrow. Our students are encouraged to develop their skills in gaining better market value job opportunities.

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## National College of Business Administration & Fconomics





# NATIOANL COLLEGE OF BUSINESS ADMINISTRATION& ECONOMICS

01\_

School of Business Administration

02

School of Computer Science

03

Faculty of Social Sciences

# SCHOOL OF BUSINESS ADMINISTRATION

\_01\_

**Business Administration** 

02,

**Environmental Management** 



#### **VISION**

Our vision is to be recognized as a leading business school among our competitors.

#### **MISSION**

We are committed to educating and developing effective human resources by inculcating professional knowledge, skills and ethical values. Our BBA, MBA, MS, PhD, and Executive Education programs are designed to develop SMART (Skillful, Methodical, Adaptable, Respectful, Trustworthy) business professionals who are ready to do their best in their field of practice and their practical lives eventually creating value for their stakeholders and society at large.

#### INTRODUCTION

NCBA&E was established in 1994, when there was no trend of private business institutions. We are known as pioneers & trend setters. We were also the ones to introduce doctoral programs in the private sector and are known for producing internationally recognized PhDs and globally competitive research. We always had a dream to emerge as an institution of excellence, and we are thus addressing the needs of the potential graduate and post graduate population; irrespective of gender, class or status. Practicing excellence in teaching, learning and a close partner-ship with industry, our commitment and hard work earned a well reputed place in the aspects of management studies. In 2002, the college got the charter from the Government of the Punjab, and thus, since its establishment, School of Business Administration at NCBA&E is marching ahead with zest.

Our intention, while developing this plan has been on one hand to pave a way that distinguishes us from the rest of the business school population, and on the other, we felt the need to develop a plan simple enough to let us see where we are heading and how far are we from achieving our objectives in the short run; and what would it take for us to realize our vision and mission.

# Dr. Alia Ahmed

#### Message

Welcome to the School of Business Administration (SBA), NCBA&E, where we take pride in our relentless efforts to equip our students with the knowledge required to fit-in and succeed in the job market. Our undergrad, graduate, and post-grad alumni are highly placed and significantly contributing to society. The best thing about NCBA&E is that we cherish each student's individuality and believe in polishing their skills and knowledge-base to the best of their potential—for us, each student is the representative of our future and hence we strive to prepare them to make a difference in the world when they graduate. We teach them to 'be the change that they want'!

SBA offers – Bachelor of Business Administration/Environmental Management, Master of Business Administration/Environmental Management, MS/MPhil. in Business Administration, and Ph.D. in Business Administration/Environmental Management with specializations in Accounting & Finance, Human Resource.



ADP Degree programs in Accounting & Finance, Sales & Marketing, and Business Management for students interested in education intended for gaining particular expertise and entering into relevant professions, as well as for those interested in foundational knowledge of business management; which will provide them a pathway to enroll in the BBA program.

SBA has a warm and closely-knit culture, rich with mutual respect and trust; mainly due to its strong faculty, which is extremely dedicated and committed. Meeting the highest standards, it is involved in teaching, curriculum development, and refining programs. They are more of mentors rather than mere instructors; always available for guidance and direction.

The philosophy behind our efforts is plain and simple: 'we were here first; and we intend to stay here as leaders'. Our Mission statement is in sync with our philosophy, which goes like this: as a leading business school, SBA at NCBA&E is committed to developing effective, socially responsible creative business leaders and managers by crafting in rightful knowledge and inspiring minds in dialogue with the world around us.

## **BUSINESS ADMINISTRATION**

ADP Programs

Undergraduate Programs Graduate Programs

MS/ M.Phil. Programs

Ph.D. Programs

## **Associate Degree Programs**\*



<sup>\*</sup> Subject to approval

### **Associate Degree Program (Accounting & Finance)**

#### **Program Duration: 2 Years**

Timing: Morning (Monday-Friday)

Location: LahoreRecognized by

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 12 Years of Education, Intermediate, F.Sc / ICS or equivalent with minimum 45% marks
- NCBA&E Entry Test is mandatory

#### Description

The Associate Degree in Accounting & Finance has been designed for candidates having 12 years education who want to have distinctive opportunity to study the theory and practice relating to accounting and finance, develop the proficiency in the application of accounting & finance principles in the financial and corporate sectors and to be absorbed at entry level positions in the ever demanding and rewarding field of accounting and finance.

#### **Program Objectives**

- To offer the distinctive opportunity to study the theory and practice relating to accounting and finance.
- To develop the proficiency in the application of accounting and finance principles in the financial and corporate sectors.
- To enable the graduates to be absorbed at entry level positions in the ever demanding and rewarding field of accounting and finance.
- Skill development and capacity building in the field of accounting and finance.



|                                |                                   |          |            |                                      | 08       |
|--------------------------------|-----------------------------------|----------|------------|--------------------------------------|----------|
| ROAD MAP: Accounting & Finance |                                   | TOTA     | AL SEMESTE | ER: 04 CREDIT HOU                    | RS: 66   |
| Semester                       | r: 01                             |          | Semeste    | er: 02                               |          |
| C.Code                         | Subject Name                      | Cr. Hrs. | C.Code     | Subject Name                         | Cr. Hrs. |
|                                | Financial Accounting - I          | 3        |            | Financial Accounting - II            | 3        |
|                                | Functional English                | 3        |            | Report Writing & Presentation Skills | 3        |
|                                | Computer Application              | 3        |            | Business Law                         | 3        |
|                                | Business Mathematics & Statistics | 3        |            | Business Ethics                      | 3        |
|                                | Micro & Macro Economics           | 3        |            | Economics of Pakistan                | 3        |
|                                | Principles of Management          | 3        |            | Fundamentals of Marketing            | 3        |
|                                | Total                             | 18       |            | Total                                | 18       |
| Semester                       | r: 03                             |          | Semeste    | er: 04                               |          |

Semester: 03 Semester: 04

| C.Code | Subject Name                         | Cr. Hrs. | C.Code | Subject Name                                  | Cr. Hrs. |
|--------|--------------------------------------|----------|--------|---|----------|
|        | Cost Accounting & Payroll Management | 3        |        | Management Accounting                         | 3        |
|        | Business Communication               | 3        |        | Financial Analysis & Decision Making          | 3        |
|        | E-Commerce & Marketing               | 3        |        | Taxation Management                           | 3        |
|        | Auditing Principles & Practices      | 3        |        | Accounting Softwares (Peach Tree, Quick Book) | 3        |
|        | Financial Management                 | 3        |        | Spread Sheet Modeling                         | 3        |
|        | Total                                | 15       |        | Total   | 15       |

**NOTE:** A Mandatory 6 months internship will be offered.

### Associate Degree Program (BUSINESS MANAGEMENT)

**Program Duration:** 2 Years

Timing: Morning (Monday-Friday)

Location: LahoreRecognized by

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 12 Years of Education, Intermediate, F.Sc / ICS or equivalent with minimum 45% marks
- NCBA&E Entry Test is mandatory

#### Description

The Management program is designed for individuals seeking specialized training and knowledge as preparation for a career in the industry. This associate degree in Management is the perfect beginning for those pursuing a career within the industries. The successful graduate can enter the industry at an entry and supervisory level to perform administrative functions and duties.



| ROAD MAP: Business Management |                                      | ТОТ      | TOTAL SEMESTER 04 CREDIT HOURS 66 |  |          |  |
|-------------------------------|--------------------------------------|----------|-----------------------------------|--|----------|--|
| Semeste                       | r: 01                                |          | Semeste                           | er: 02                                       |          |  |
| C.Code                        | Subject Name                         | Cr. Hrs. | C.Code                            | Subject Name                                 | Cr. Hrs. |  |
|                               | Financial Accounting - I             | 3        |                                   | Financial Accounting - II                    | 3        |  |
|                               | Functional English                   | 3        |                                   | Report Writing & Presentation Skills         | 3        |  |
|                               | Computer Applications                | 3        |                                   | Business Law                                 | 3        |  |
|                               | Business Mathematics & Statistics    | 3        |                                   | Business Ethics                              | 3        |  |
|                               | Micro & Macro Economics              | 3        |                                   | Economics of Pakistan                        | 3        |  |
|                               | Principles of Management             | 3        |                                   | Fundamentals of Marketing                    | 3        |  |
|                               |                                      |          |                                   |  |          |  |
|                               | Total                                | 18       |                                   | Total  | 18       |  |
| Semeste                       | r: 03                                |          | Semester: 04                      |  |          |  |
| C.Code                        | Subject Name                         | Cr. Hrs. | C.Code                            | Subject Name                                 | Cr. Hrs. |  |
|                               | Cost Accounting & Payroll Management | 3        |                                   | Management Accounting                        | 3        |  |
|                               | Business Communication               | 3        |                                   | Financial Analysis & Decision Making         | 3        |  |
|                               | E - Commerce & Marketing             | 3        |                                   | Taxation Management                          | 3        |  |
|                               | Auditing Principles & Practices      | 3        |                                   | Accounting Softwares (PeachTree, Quick Book) | 3        |  |
|                               | Financial Management                 | 3        |                                   | Spreadsheet Modeling                         | 3        |  |
|                               | Total                                | 15       |                                   | Total  | 15       |  |

**NOTE:** A Mandatory 6 months internship will be offered.

### Associate Degree Program (SALES & MARKETING)

**Program Duration:** 2 Years

Timing: Morning (Monday-Friday)

Location: LahoreRecognized by

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 12 Years of Education, Intermediate, F.Sc / ICS or equivalent with minimum 45% marks
- NCBA&E Entry Test is mandatory

#### Description

The ADP Sales & Marketing is beneficial for individuals seeking to enter the sales and marketing field. The goal of this two year Associate Degree Program is to equip students with basic and advanced concepts of sales and marketing management and to acquaint them with principles of marketing and its role in business practice. The students will be trained to apply and evaluate strategic marketing choices and decisions and be able to employ marketing strategies for competitive advantage.



| ROAD MA  | P: Sales & Marketing              | тот      | AL SEMEST | TER 04 CREDIT HOURS 66               |          |
|----------|-----------------------------------|----------|-----------|--------------------------------------|----------|
| Semeste  | r: 01                             |          | Semeste   | er: 02                               |          |
| C.Code   | Subject Name                      | Cr. Hrs. | C.Code    | Subject Name                         | Cr. Hrs. |
|          | Financial Accounting              | 3        |           | Cost & Management Accounting         | 3        |
|          | Functional English                | 3        |           | Report Writing & Presentation Skills | 3        |
|          | Computer Applications             | 3        |           | Business Law                         | 3        |
|          | Business Mathematics & Statistics | 3        |           | Business Ethics                      | 3        |
|          | Micro & Macro Economics           | 3        |           | Human Resource Management            | 3        |
|          | Principles of Management          | 3        |           | Fundamentals of Marketing            | 3        |
|          |                                   |          |           |                                      |          |
|          | Total                             | 18       |           | Total                                | 18       |
| Semester | r: 03                             |          | Semeste   | er: 04                               |          |
| C.Code   | Subject Name                      | Cr. Hrs. | C.Code    | Subject Name                         | Cr. Hrs. |
|          | Financial Management              | 3        |           | Import & Export Marketing            | 3        |
|          | Business Communication            | 3        |           | Consumer Behaviour                   | 3        |
|          | Psychology                        | 3        |           | Public Relations                     | 3        |
|          | Advertising & Promotions          | 3        |           | E - Commerce & Marketing             | 3        |
|          | Marketing Management              | 3        |           | Sales Management                     | 3        |
|          | Total                             | 15       |           | Total                                | 15       |

**NOTE:** A Mandatory 6 months internship will be offered.

# **Undergraduate Programs**

Bachelor of Business Administration - BBA (Hons.) Bachelor of Business Administration - BBA (2 Years)

## **Bachelor of Business Administration-BBA(Hons.)**

**Program Duration:** 4 Years

■ **Timing:** Morning (Monday-Saturday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 12 Years of Education or equivalent with minimum 45% marks
- NCBA&E Entry Test is mandatory

#### INTRODUCTION

The Bachelor of Business Administration BBA (Hons.) degree program is of 135 Credit Hours and duration of the program is 4 Years. BBA studies bring together an array of course offerings from a variety of disciplines such as Management, Social Sciences, Communication, Accounting, Finance, Mathematics, Statistics, and Research.

The BBA program is focused on developing the overall personality of the students by providing them a broad based knowledge of management and related disciplines. Our degree also emphasizes the development of communication skills that a student needs in order to fit in an organizational setting. The specialization, we offer in BBA is Business Administration.



| )         |                                      |                    |           |                                |          |
|-----------|--------------------------------------|--------------------|-----------|--------------------------------|----------|
| ROAD MA   | P: BBA(Hons.)                        | TOTAL SEMESTER: 08 |           | 700 TOTAL CREDIT HOURS         | S: 135   |
| Semester  | : 01                                 | Semester: 02       |           |                                |          |
| C.Code    | Subject Name                         | Cr. Hrs.           | C.Code    | Subject Name                   | Cr. Hrs. |
| LANG 1103 | English-l                            | 3                  | LANG 1023 | English - II                   | 3        |
| ACCT 2003 | Financial Accounting - I             | 3                  | ACCT      | Financial Accounting - II      | 3        |
| CS 131    | Computer Application                 | 3                  | MIS 1001  | Management Information Systems | 3        |
| MATH 1013 | Business Mathematics                 | 3                  | AM 1211   | Communication Theory           | 3        |
| MGMT 3013 | Principles of Management             | 3                  | Econ 2001 | Micro Economics                | 3        |
| SOCL 1013 | Sociology                            | 3                  | PSY 1011  | Psychology                     | 3        |
|           |                                      |                    |           |                                |          |
|           | Total                                | 18                 |           | Total                          | 18       |
| Semester  | : 03                                 |                    | Semester  | : 04                           |          |
| C.CODE    | Subject Name                         | Cr. Hrs.           | C.CODE    | Subject Name                   | Cr. Hrs. |
| COMM 3013 | Report Writing & Presentation Skills | 3                  | ADMS 2013 | Business Communication         | 3        |
| ACCT 2013 | Management Accounting                | 3                  | BFN 1001  | Financial Management - I       | 3        |
| MKTG 3510 | Marketing Management                 | 3                  | AM 3114   | Product Design                 | 3        |
| ECON 2011 | Macro Economics                      | 3                  | MKTG 4054 | Consumer Behaviour             | 3        |
| HIST 1011 | Regional History                     | 3                  | ECON 3033 | Money and Banking              | 3        |
| MGMT 3083 | Philosophy                           | 3                  | MGMT 2001 | Enviornmental Management       | 3        |
|           |                                      |                    |           |                                |          |
|           | Total                                | 18                 |           | Total                          | 18       |

| ROAD MA   | AP: BBA(Hons.)                       | TOTAL    | SEMESTER: ( | 08 TOTAL CREDIT HOUR                              | S: 135   |
|-----------|--------------------------------------|----------|-------------|---|----------|
| Semester  | : 05                                 |          | Semester    | : 06  |          |
| C.Code    | Subject Name                         | Cr. Hrs. | C.Code      | Subject Name                                      | Cr. Hrs. |
| BA 3202   | Commercial Banking                   | 3        | MGMT 3083   | Human Resource Management                         | 3        |
| IBF 1001  | Financial Management-II              | 3        | MKTG 4007   | Auditing  | 3        |
| MATH 113  | Probability & Statistics             | 3        | MGMT2022    | Business Statistics                               | 3        |
| MGMT 3012 | Organizational Behavior & Leadership | 3        | мсмт        | Business Ethics                                   | 3        |
| MKTG 3023 | Introduction to Retailing            | 3        | LANG 1041   | Foreign Language - Chinese/French                 | 3        |
| MKTG 3102 | Advertising                          | 3        |             |   |          |
|           |                                      |          |             |   |          |
|           | Total                                | 18       |             | Total   | 15       |
| Semester  | : 07                                 |          | Semester    | : 08  |          |
| C.Code    | Subject Name                         | Cr. Hrs. | C.Code      | Subject Name                                      | Cr. Hrs. |
| BUS 232   | Entrepreneurship                     | 3        | FIN 4111    | Islamic Finance                                   | 3        |
| BUAD 1013 | Busines Law                          | 3        | ENGM 2012   | International Trade and Development               | 3        |
| NCRS 4113 | Business Research Methodology        | 3        | MGMT 4214   | Risk Management                                   | 3        |
| BUS 322   | Business Strategy                    | 3        | MGMT 5000   | Final Project                                     | 6        |
| MGMT3063  | Production & Operations Management   | 3        |             | OR (2 Following Courses instead of Final Project) |          |
|           |                                      |          | MNGT 423    | E - Marketing                                     | 3        |
|           |                                      |          | MNGT 424    | Cases in Management & Leadership                  | 3        |
|           | Total                                | 15       |             | Total   | 15       |

## Bachelor of Business Administration-BBA(Hons.) - 2 Years

**Program Duration:** 2 Years

■ **Timing:** Morning & Evening (Monday-Sunday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 14 Years of Education, B.A, B.Sc / B.com or Equivalent with minimum 45% marks
- NCBA&E Entry Test is mandatory

#### INTRODUCTION

The Bachelor of Business Administration BBA (Hons.) degree program is of 75 Credit Hours and duration of the program is 2 Years. BBA studies bring together an array of course offerings from a variety of disciplines such as Management, Social Sciences, Communication, Accounting, Finance, Mathematics and Statistics.



| ROAD MA   | AP: BBA (Hons) - 2 Years              | TOTAL    | SEMESTER: ( | 06 CREDIT HOUF                     | RS: 75   |
|-----------|---------------------------------------|----------|-------------|------------------------------------|----------|
| Semeste   | r: 01                                 |          | Semester    | - 2 (1st Summer)                   |          |
| C.Code    | Subject Name                          | Cr. Hrs. | C.Code      | Subject Name                       | Cr. Hrs. |
| MNGT 110  | Financial Accounting                  | 3        | Lang 102    | English                            | 3        |
| CS 101    | Computer Application                  | 3        | MNGT 102    | Management Information System      | 3        |
| MNGT 101  | Principles of Management              | 3        |             |                                    |          |
| MATH 146  | Business Mathematics                  | 3        |             |                                    |          |
| ECON 1012 | Business Economics                    | 3        |             |                                    |          |
|           | Total                                 | 15       |             | Total                              | 6        |
| Semeste   | r: 03                                 |          | Semester    | : 04                               |          |
| C.Code    | Subject Name                          | Cr. Hrs. | C.Code      | Subject Name                       | Cr. Hrs. |
| MNGT 112  | Financial Accounting - II             | 3        | MNGT 104    | Management Accounting              | 3        |
| MNGT 205  | Marketing Management                  | 3        | MNGT 416    | Entrepreneurship                   | 3        |
| MNGT 402  | Human Resource Management             | 3        | MNGT 322    | Production & Operations Management | 3        |
| MNGT 311  | Organizational Behaviour & Leadership | 3        | MNGT 326    | Consumer Behavior                  | 3        |
| MNGT 213  | Business Communication                | 3        | STAT 114    | Business Statistics                | 3        |
|           | Total                                 | 15       |             | Total                              | 15       |
| Semeste   | r - 5 (2nd Summer)                    |          | Semester    | : 06                               |          |
| C.Code    | Subject Name                          | Cr. Hrs. | C.Code      | Subject Name                       | Cr. Hrs. |
| MNGT 232  | Money & Banking                       | 3        | MNGT 423    | E - Marketing                      | 3        |
| MNGT 412  | Business Law                          | 3        | MNGT 210    | Financial Management               | 3        |
|           |                                       |          | MNGT 425    | Business Research Methodologies    | 3        |
|           |                                       |          | MNGT 421    | Cases in Management & Leadership   | 3        |
|           |                                       |          | MGMT 5000   | Final Project                      | 6        |
|           | Total                                 | 6        |             | Total                              | 18       |

## **Graduate Programs**

MBA (36 Credit Hours)

MBA (66 Credit Hours) MBA Executive (66 Credit Hours)

## **Master of Business Administration (1.5 Years)**

#### **Program Duration:** 1.5 years

■ **Timing:** Morning & Evening (Monday-Sunday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 16 Years of Business Education or equivalent with minimum 45% marks
- NCBA&E Entry Test is mandatory

#### INTRODUCTION

The Masters of Business Administration(MBA) offered at National College of Business Administration and Economics (NCBA&E) has been developed to meet the diverse and ever changing needs of business community and to produce SMART (Skillful, Mature, Adaptable, Respectful, Trustworthy) and effective human resource equipped with conceptual and

technical knowledge in Management, Marketing, Finance & Accounting; who are ready to do their best in their field of practice and become contributing members of the society. The curriculum of the program is continuously updated in the light of developments in different fields and redesigned to meet the current industry requirements.



| Semester  | : 01                      |          | Semest | er: 02                    |          |
|-----------|---------------------------|----------|--------|---------------------------|----------|
| C.Code    | Subject Name              | Cr. Hrs. | C.Code | Subject Name              | Cr. Hrs. |
| MGMT 4801 | Project Management        | 3        | 1      | Specialization Course - 2 | 3        |
| MGMT4803  | Supply Chain Management   | 3        | 2      | Specialization Course - 3 | 3        |
| MKTG 4033 | Marketing Research        | 3        | 3      | Specialization Course - 4 | 3        |
|           | Specialization Course - 1 | 3        | 4      | Specialization Course - 5 | 3        |
|           |                           |          |        |                           |          |
|           |                           |          |        |                           |          |
|           |                           |          |        |                           |          |
|           | Total                     | 12       |        | Total                     | 12       |
| Semester  | : 03                      |          |        |                           |          |
| C.Code    | Subject Name              | Cr. Hrs. |        |                           |          |
| MGMT 4053 | Competition & Strategy    | 3        |        |                           |          |
| EXE 606   | Corporate Law             | 3        |        |                           |          |
| MGMT 6000 | Dissertation              | 6        |        |                           |          |
|           |                           |          |        |                           |          |
|           |                           |          |        |                           |          |
|           |                           |          |        |                           |          |
|           |                           |          |        |                           |          |
|           | Total                     | 12       |        |                           |          |

ROAD MAP: Master of Business Administration (1.5 Years) TOTAL SEMESTER: 04

**CREDIT HOURS: 36** 

ROAD MAP: Master of Business Administration (1.5 Years)

TOTAL SEMESTER: 04

A student may choose any one of the following specialization

| Specialization in Accounting and Finance |  |          | Specialization in Human Resource Management |                                 |         |
|--|--|----------|---|---------------------------------|---------|
| C.Code                                   | Subject Name                               | Cr. Hrs. | C.Code                                      | Subject Name                    | Cr. Hrs |
| MKTG 4007                                | Taxation Management                        | 3        | MKTG 4005                                   | Recruitment & Selection         | 3       |
| FMG 4005                                 | Financial Modelling                        | 3        | MGMT 4062                                   | Industrial Relations            | 3       |
| MKTG 4002                                | Auditing & Assurance                       | 3        | MGMT 4090                                   | Performance Management          | 3       |
| MKTG 4007                                | Financial Reporting & Standards            | 3        | MGMT 4063                                   | Compensation & Benefits         | 3       |
| FMG 4004                                 | Financial Securities & Investment Analysis | 3        | MGMT 4091                                   | Training & Development          | 3       |
|  | Total                                      | 15       |   | Total                           | 15      |
| Specializati                             | on in Marketing                            |          | Specializa                                  | tion in Supply Chain Management |         |
| C.Code                                   | Subject Name                               | Cr. Hrs. | C.Code                                      | Subject Name                    | Cr. Hrs |
| MKTG 4006                                | Brand Management                           | 3        | MKTG 4008                                   | Supply Chain Strategy           | 3       |
| MKTG 4010                                | Retail Management                          | 3        | MGMT 4601                                   | Global Supply Chain Management  | 3       |
| MKTG 4002                                | Sales Management                           | 3        | MGMT 4602                                   | Sourcing & Procurement          | 3       |
| MKTG 4011                                | Digital Marketing                          | 3        | MGMT 4603                                   | Logistics Management            | 3       |
| MKTG 4007                                | Services Marketing                         | 3        | MGMT 4604                                   | Lean Operations                 | 3       |
|  |  |          |   |                                 |         |
|  |  |          |   |                                 |         |

## Master of Business Administration (66 Credit Hours)

**Program Duration: 2.5 Years** 

■ **Timing:** Morning & Evening (Monday-Saturday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 16 Years of Non-Business Education or Equivalent with minimum 45% marks
- NCBA&E Entry Test is mandatory

#### INTRODUCTION

Business Administration Studies at National College of Business Administration and Economics (NCBA&E) has been developed to meet the diverse and ever changing needs of business community and to equip the students with conceptual and technical knowledge in Management, Marketing, Finance & Accounting. The curriculum of the program is continuously updated in the light of developments in different fields and redesigned to meet the current industry requirements. The fusion of academic excellence with practical expertise that expands capabilities of our graduates and gives them a clear vision of business prospects and problems in and out of Pakistan.



| ROAD MAI     | P: MBA (2.5 Years)                 | ТО       | TAL SEMES    | TER: 05 CREDIT HOU                   | RS: 66   |
|--------------|------------------------------------|----------|--------------|--------------------------------------|----------|
| Semester:    | 01                                 |          | Semeste      | er: 02                               |          |
| C.Code       | Subject Name                       | Cr. Hrs. | C.Code       | Subject Name                         | Cr. Hrs. |
| MGMT 3013    | Principles of Management           | 3        | MKTG 3510    | Management Accounting                | 3        |
| CS 131       | Computer Application               | 3        | EXE 614      | Business Statistics                  | 3        |
| MKTG 3510    | Marketing Management               | 3        | ACCT 2013    | Business Communication               | 3        |
| ECON 1110    | Business Economics                 | 3        | ACCT 2013    | Human Resource Management            | 3        |
| CS 131       | Financial Accounting               | 3        | MGMT 3063    | Organizational Behavior & Leadership | 3        |
|              | Total                              | 15       |              | Total                                | 15       |
| Semester: 03 |                                    |          | Semester - 4 |                                      |          |
| C.Code       | Subject Name                       | Cr. Hrs. | C.Code       | Subject Name                         | Cr. Hrs. |
| EXE 606      | Corporate Law                      | 3        | 1            | Specialization Course - 1            | 3        |
| EXE 681      | Project Management                 | 3        | 2            | Specialization Course - 2            | 3        |
| MGMT 3083    | Production & Operations Management | 3        | 3            | Specialization Course - 3            | 3        |
| EXE 667      | Strategic Management               | 3        | 4            | Specialization Course - 4            | 3        |
| IBF 1001     | Financial Management               | 3        | 5            | Specialization Course - 5            | 3        |
|              | Total                              | 15       |              | Total                                | 15       |
| Semester:    | 05                                 |          |              |                                      |          |
| S.Code       | Subject Name                       | Cr. Hrs. |              |                                      |          |
| MGMT 6000    | Dissertation                       | 6        |              |                                      |          |
|              | Total                              | 6        |              |                                      |          |
|              | lotai                              |          |              |                                      |          |

ROAD MAP: MBA (2.5 Years)

**TOTAL SEMESTER: 05** 

**CREDIT HOURS: 66** 

#### A student may choose any one of the following specialization

| Specialization in Accounting and Finance              |  |                  | Specialization in Human Resource Management      |   |             |
|---|--|------------------|--|---|-------------|
| C.Code  | Subject Name   | Cr. Hrs.         | C.Code   | Subject Name  | Cr. Hrs.    |
| MKTG 4007   | Taxation Management  | 3                | MKTG 4005  | Recruitment & Selection   | 3           |
| FMG 4005  | Financial Modelling  | 3                | MGMT 4062  | Industrial Relations  | 3           |
| MKTG 4002   | Auditing & Assurance   | 3                | MGMT 4090  | Performance Management  | 3           |
| MKTG 4007   | Financial Reporting & Standards  | 3                | MGMT 4063  | Compensation & Benefits   | 3           |
| FMG 4004  | Financial Securities & Investment Analysis                               | 3                | MGMT 4091  | Training & Development  | 3           |
|   | Total  | 15               |  | Total   | 15          |
| Specialization in Marketing                           |  |                  | Specialization in Supply Chain Management        |   |             |
|   |  |                  |  |   |             |
| C.Code  | Subject Name   | Cr. Hrs.         | C.Code   | Subject Name  | Cr. Hrs.    |
|   | Subject Name  Brand Management   | Cr. Hrs.         | C.Code MKTG 4008                                 | Subject Name Supply Chain Strategy  | Cr. Hrs.    |
| MKTG 4006   |  |                  |  |   |             |
| MKTG 4006<br>MKTG 4010                                | Brand Management   | 3                | MKTG 4008  | Supply Chain Strategy   | 3           |
| MKTG 4006<br>MKTG 4010<br>MKTG 4002                   | Brand Management  Retail Management                                      | 3                | MKTG 4008<br>MGMT 4601                           | Supply Chain Strategy  Global Supply Chain Management   | 3           |
| MKTG 4006  MKTG 4010  MKTG 4002  MKTG 4011  MKTG 4007 | Brand Management  Retail Management  Sales Management                    | 3<br>3<br>3      | MKTG 4008<br>MGMT 4601<br>MGMT 4602              | Supply Chain Strategy  Global Supply Chain Management  Sourcing & Procurement                       | 3<br>3<br>3 |
| MKTG 4006  MKTG 4010  MKTG 4002  MKTG 4011            | Brand Management  Retail Management  Sales Management  Digital Marketing | 3<br>3<br>3<br>3 | MKTG 4008<br>MGMT 4601<br>MGMT 4602<br>MGMT 4603 | Supply Chain Strategy  Global Supply Chain Management  Sourcing & Procurement  Logistics Management | 3<br>3<br>3 |

#### Master of Business Administration - Executive (66 Credit Hours)

**Program Duration:** 2.5 Years

Timing: Evening (Monday-Sunday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 16 Years of Education with minimum 45% marks along with 3 years of Professional Experience
- NCBA&E Entry Test is mandatory

#### INTRODUCTION

Executive MBA at National College of Business Administration and Economics (NCBA&E) has been developed to accommodate business professionals who are interested in polishing their conceptual and technical knowledge in Management, Marketing, Finance & Accounting to meet the diverse and ever changing needs of business community. The curriculum of the program is continuously updated in the light of developments in different fields and redesigned to meet the current industry requirements. The fusion of academic excellence with practical expertise expands capabilities of our graduates and gives them a clear vision of business prospects and problems in and out of Pakistan.



| ROAD MA   | ROAD MAP: MBA Executive (2.5 Years) |          |           | TER: 05 C                          | CREDIT HOURS: 66 |  |
|-----------|-------------------------------------|----------|-----------|------------------------------------|------------------|--|
| Semester  | : 01                                |          | Semeste   | er: 02                             |                  |  |
| C.Code    | Subject Name                        | Cr. Hrs. | C.Code    | Subject Name                       | Cr. Hrs.         |  |
| MGMT 3013 | Principles of Management            | 3        | MKTG 3510 | Management Accounting              | 3                |  |
| CS 131    | Computer Application                | 3        | EXE 614   | Business Statistics                | 3                |  |
| MKTG 3510 | Marketing Management                | 3        | ACCT 2013 | Business Communication             | 3                |  |
| ECON 1110 | Business Economics                  | 3        | ACCT 2013 | Human Resource Management          | 3                |  |
| CS 131    | Financial Accounting                | 3        | MGMT 3063 | Organizational Behavior & Leadersl | nip 3            |  |
|           | Total                               | 15       |           | Total                              | 15               |  |
| Semester  | : 03                                |          | Semeste   | r - 4                              |                  |  |
| C.Code    | Subject Name                        | Cr. Hrs. | C.Code    | Subject Name                       | Cr. Hrs.         |  |
| EXE 606   | Corporate Law                       | 3        | 1         | Specialization Course - 1          | 3                |  |
| EXE 681   | Project Management                  | 3        | 2         | Specialization Course - 2          | 3                |  |
| MGMT 3083 | Production & Operations Management  | 3        | 3         | Specialization Course - 3          | 3                |  |
| EXE 667   | Strategic Management                | 3        | 4         | Specialization Course - 4          | 3                |  |
| IBF 1001  | Financial Management                | 3        | 5         | Specialization Course - 5          | 3                |  |
|           | Total                               | 15       |           | Total                              | 15               |  |
| Semester  | : 05                                |          |           |                                    |                  |  |
| S.Code    | Subject Name                        | Cr. Hrs. |           |                                    |                  |  |
| MGMT 6000 | Dissertation                        | 6        |           |                                    |                  |  |
|           |                                     |          |           |                                    |                  |  |
|           | Total                               | 6        |           |                                    |                  |  |

#### ROAD MAP: MBA Executive (2.5 Years)

#### **TOTAL SEMESTER: 05**

#### **CREDIT HOURS: 66**

#### A student may choose any one of the following specialization

|  | on in Accounting and Finance   |                  | Specializa                                       | tion in Human Resource Management   |                  |
|--|--|------------------|--|---|------------------|
| C.Code                                     | Subject Name   | Cr. Hrs.         | C.Code   | Subject Name  | Cr. Hrs.         |
| MKTG 4007                                  | Taxation Management  | 3                | MKTG 4005  | Recruitment & Selection   | 3                |
| FMG 4005                                   | Financial Modelling  | 3                | MGMT 4062  | Industrial Relations  | 3                |
| MKTG 4002                                  | Auditing & Assurance   | 3                | MGMT 4090  | Performance Management  | 3                |
| MKTG 4007                                  | Financial Reporting & Standards  | 3                | MGMT 4063  | Compensation & Benefits   | 3                |
| FMG 4004                                   | Financial Securities & Investment Analysis                               | 3                | MGMT 4091  | Training & Development  | 3                |
|  | Total  | 15               |  | Total   | 15               |
| Specializati                               | on in Marketing  |                  | Specializa                                       | tion in Supply Chain Management   |                  |
|  |  |                  |  |   |                  |
| C.Code                                     | Subject Name   | Cr. Hrs.         | C.Code   | Subject Name  | Cr. Hrs.         |
|  | Subject Name  Brand Management   | Cr. Hrs.         | <b>C.Code</b><br>мктG 4008                       | Subject Name Supply Chain Strategy  | Cr. Hrs.         |
| MKTG 4006                                  |  |                  |  |   |                  |
| MKTG 4010                                  | Brand Management   | 3                | MKTG 4008  | Supply Chain Strategy   | 3                |
| MKTG 4006  MKTG 4010  MKTG 4002  MKTG 4011 | Brand Management  Retail Management                                      | 3<br>3           | MKTG 4008<br>MGMT 4601                           | Supply Chain Strategy  Global Supply Chain Management   | 3                |
| MKTG 4006  MKTG 4010  MKTG 4002            | Brand Management  Retail Management  Sales Management                    | 3<br>3<br>3      | MKTG 4008<br>MGMT 4601<br>MGMT 4602              | Supply Chain Strategy  Global Supply Chain Management  Sourcing & Procurement                       | 3 3              |
| MKTG 4006  MKTG 4010  MKTG 4002  MKTG 4011 | Brand Management  Retail Management  Sales Management  Digital Marketing | 3<br>3<br>3<br>3 | MKTG 4008<br>MGMT 4601<br>MGMT 4602<br>MGMT 4603 | Supply Chain Strategy  Global Supply Chain Management  Sourcing & Procurement  Logistics Management | 3<br>3<br>3<br>3 |

# MS/MPhil Program

MPhil/MS in Business Administration

#### **MS/MPhil Business Administration**

**Program Duration:** 2 years

■ **Timing:** Morning (Monday-Friday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 16 Years of Education or Equivalent with minimum 2.5 CGPA
- NCBA&E Entry Test is mandatory

#### INTRODUCTION

SBA also offers M.Phil in Business Administration, which is a research based 18 years qualification specifically designed to train students in scientific process and to teach them to explore their domains via philosophical and scientific lens and become critical thinkers. The curriculum is developed and updated periodically to sensitize students with the concept of research, to give awareness of research skills and methods, and to develop critical thinking and analysis, and familiarize them with the research process.



| ROAD MA  | ROAD MAP: MS / MPhil in Business Administration |          | TAL SEMES | STER 04 CREDIT HOUR                            | CREDIT HOURS 30 |  |
|----------|---|----------|-----------|--|-----------------|--|
| Semester | : 01  |          | Semeste   | er: 02   |                 |  |
| C.Code   | Subject Name                                    | Cr. Hrs. | C.Code    | Subject Name                                   | Cr. Hrs.        |  |
| RGEN 701 | Advance Research Methodology                    | 3        | RGEN 703  | Research Workshop II                           | 3               |  |
| RGEN 702 | Research Workshop I                             | 3        | MNGTXXX   | Elective III                                   | 3               |  |
| MNGTXXX  | Elective I                                      | 3        | MNGTXXX   | Elective IV                                    | 3               |  |
| MNGTXXX  | Elective II                                     | 3        | MNGTXXX   | Elective V                                     | 3               |  |
|          | Total   | 12       |           | Total  | 12              |  |
| Semeste  | r: 03 & 04                                      |          | Elective  | Courses  |                 |  |
| C.Code   | Subject Name                                    | Cr. Hrs. | C.Code    | Subject Name                                   | Cr. Hrs.        |  |
| MNGT 789 | Research Thesis (or 2 Courses for MS)           | 6        | MNGT 788  | Topics in Human Resource Management            | 3               |  |
|          |   |          | MNGT 787  | Topics in Organizational Behaviour             | 3               |  |
|          |   |          | MNGT 786  | Topics in Marketing                            | 3               |  |
|          |   |          | MNGT 785  | Topics in Finance                              | 3               |  |
|          |   |          | MNGT 784  | Topics in Business & Management                | 3               |  |
|          |   |          | MNGT 783  | Research Skills in Business and Management     | 3               |  |
|          |   |          | MNGT 780  | Data Analysis in Business & Management         | 3               |  |
|          |   |          | MNGT 779  | Topics in Positive Organizational Scholarship  | 3               |  |
|          |   |          | MNGT 778  | Topics in Business and Sustainable Development | 3               |  |
|          | Total   | 6        |           |  |                 |  |

# PhD Program

PhD in Business Administration

#### **Doctor of Philosophy in Business Administration**

**Program Duration:** 3 years

■ **Timing:** Morning (Monday-Friday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 18 Years of Education or Equivalent with minimum 3.0 CGPA
- NCBA&E Entry Test is mandatory

#### INTRODUCTION

School of Business Administration offers PhD in Business Administration, which is developed and designed to produce internationally compatible researchers who can make significant knowledge contribution to their field of study. The PhD curriculum is designed to refresh scholars' research skills, and to develop philosophical, theoretical and conceptual understanding. The rich research culture and mentorship available at SBA provides a breeding ground for the scholars to work and think independently and scientifically where they are extensively trained for significant theoretical contribution to their field knowledge.



|   | ROAD MAP: PhD In Business Administration |  | TOTA     | L SEMESTEI | R: 06 CREDIT HOU  | RS: 30   |
|---|--|--|----------|------------|---|----------|
| I | Semeste                                  | r: 01  |          | Semeste    | er: 02  |          |
|   | C.Code                                   | Course Title                                       | Cr. Hrs. | C.Code     | Course Title  | Cr. Hrs. |
| ı | RGEN 703                                 | Research Workshop II                               | 0        | MNGTXXX    | Elective 3  | 3        |
|   | MNGTXXX                                  | Elective 1   | 3        | MNGTXXX    | Elective 4  | 3        |
| ı | MNGTXXX                                  | Elective 2   | 3        | MNGTXXX    | Elective 5  | 3        |
|   |  | Total  | 6        |            | Total   | 9        |
|   | Semeste                                  | r: 03  |          | Semeste    | er: 04 - 06   |          |
|   | C.Code                                   | Course Title                                       | Cr. Hrs. | C.Code     | Course Title  | Cr. Hrs. |
| ı | MNGTXXX                                  | Elective 6   | 3        | MNGTXXX    | Research Thesis   | 12       |
|   |  | Comprehensive Exam                                 | 0        |            |   |          |
|   |  | Total  | 3        |            | Total   | 12       |
| ı |  |  | Elective | Courses    |   |          |
|   | C.Code                                   | Course Title                                       | Cr. Hrs. | C.Code     | Course Title  | Cr. Hrs. |
|   | MNGT 888                                 | Research Topics in Human Resource Management       | 3        | MNGT 882   | Theory Building in Management Research                      | 3        |
| ı | MNGT 887                                 | Research Topics in Organizational Behaviour        | 3        | MNGT 881   | Research Design & Methodology in Business and<br>Management | 3        |
|   | MNGT 886                                 | Research Topics in Marketing                       | 3        | MNGT 870   | Advanced Data Analysis in Business<br>& Management          | 3        |
|   | MNGT 885                                 | Research Topics in Finance                         | 3        | MNGT 879   | Research in Positive Organizational Scholarship             | 3        |
|   | MNGT 884                                 | Research Topics in Corporate Crimes and Governance | 3        | MNGT 878   | Research in Business and Sustainable<br>Development         | 3        |
|   | MNGT 883                                 | Research Topics in Business & Management           | 3        |            |   |          |

# ENVIRONMENTAL MANAGEMENT

01

Undergraduate Program 02,

MS/MPhil. Program

## **Undergraduate Program**

BS (Hons.) Environmental Management

#### **Bachelor of Environmental Management - BS (Hons.)**

**Program Duration:** 4 Years

■ **Timing:** Morning (Monday-Friday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 12 Years of Education or Equivalent with minimum 45% marks
- NCBA&E Entry Test is mandatory

#### INTRODUCTION

The Bachelor of Environmental Management (Hons.) degree program is of 135 Credit Hours and duration of the program 4 Years. Environmental Management studies offers market based subjects such as environmental pollution climate change Management, urban planning, health and safety, environmental impact assessment & management.

The BS (Hons) program is focused on developing student skills on environmental conservation, alleviation of poverty and sustainable development. Our degree also emphasizes how to work in a team to fit in an organizational setting.



**CREDIT HOURS: 135** 

|             | 01                              |          | Semester | . 02   |          |
|-------------|---------------------------------|----------|----------|--|----------|
| C.Code      | Subject Name                    | Cr. Hrs. | C.Code   | Subject Name                                 | Cr. Hrs. |
| ENV 501     | English – I                     | 3        | ENV 507  | English -II                                  | 3        |
| ENV 502     | Mathematics                     | 3        | ENV 508  | Pakistan Studies                             | 3        |
| ENV 503     | Islamic Studies                 | 3        | ENV 509  | Computer Application                         | 3        |
| ENV 504     | General Physics Theory          | 3        | ENV 510  | Introduction to Environmental Management     | 3        |
| ENV 505     | General Chemistry Theory        | 3        | ENV 511  | Environment Impact Assessment                | 3        |
| ENV 506     | General Biology Theory          | 3        | ENV 512  | Wildlife Forestry and Wetland Management     | 3        |
|             |                                 |          |          |  |          |
|             | Total                           | 18       |          | Total  | 18       |
| Semester: ( | 03                              |          | Semester | : 04   |          |
| C.Code      | Subject Name                    | Cr. Hrs. | C.Code   | Subject Name                                 | Cr. Hrs. |
| ENV 513     | Rock Soil & Environment Theory  | 3        | ENV 519  | Research Methods In Environmental Management | 3        |
| ENV 514     | Environment Law and Policies    | 3        | ENV 520  | Environment Health and Safety                | 3        |
| ENV 515     | Environmental Pollution         | 3        | ENV 521  | Urban Environment                            | 3        |
| ENV 516     | Environment Economics           | 3        | ENV 522  | Environmental Statistics                     | 3        |
| ENV 517     | Introduction to Climate Change  | 3        | ENV 523  | Natural Resource Management                  | 3        |
| ENV 518     | Environment Profile of Pakistan | 3        | ENV 524  | Analytical Techniques In Ecological System   | 3        |
|             |                                 |          |          |  |          |
|             | Total                           | 18       |          | Total  | 18       |

ROAD MAP: Bachelor of Environmental Management

| ROAD MA  | P: Bachelor of Environmental Management |          | TOTAL SEM | ESTER: 08 CREDIT HOUR                                       | RS: 135  |
|----------|---|----------|-----------|---|----------|
| Semester | : 05                                    |          | Semester  | :: 06   |          |
| C.Code   | Subject Name                            | Cr. Hrs. | C.Code    | Subject Name  | Cr. Hrs. |
| ENV 601  | Water Pollution and Control             | 3        | ENV 607   | Natural Hazards and Disaster Management                     | 3        |
| ENV 602  | Occupational Safety and Health          | 3        | ENV 608   | Waste Water Treatment                                       | 3        |
| ENV 603  | Solid Waste Management                  | 3        | ENV 609   | Population Dynamics and Environment                         | 3        |
| ENV 604  | Biodiversity and Conservation           | 3        | ENV 610   | Energy and Environment                                      | 3        |
| ENV 605  | Environmental Chemistry                 | 3        | ENV 611   | WEEE Management   | 3        |
| ENV 606  | Urban Planning and Environment          | 3        | ENV 612   | Environmental Toxicology                                    | 3        |
|          |   |          |           |   |          |
|          | Total                                   | 18       |           | Total   | 18       |
| Semester | : 07                                    |          | Semestei  | r: 08   |          |
| C.Code   | Subject Name                            | Cr. Hrs. | C.Code    | Subject Name  | Cr. Hrs. |
| ENV 613  | Environmental Geology                   | 3        | ENV 619   | Environmental Standards, Auditing and<br>Project Management | 3        |
| ENV 614  | Hospital Waste Management               | 3        | ENV 620   | Project/Thesis  | 6        |
| ENV 615  | Environment and Humanity                | 3        |           |   |          |
| ENV 616  | GIS & Remote Sensing                    | 3        |           |   |          |
| ENV 617  | Environmental Monitoring                | 3        |           |   |          |
| ENV 618  | Applied Ecology                         | 3        |           |   |          |
|          |   |          |           |   |          |
|          | Total                                   | 18       |           | Total   | 9        |

### **Masters Program**

MS/MPhil. Environmental Management

#### MS/MPhil. Environmental Management

**Program Duration: 2 Years** 

■ **Timing:** Morning (Monday-Friday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 16 Years of Education or Equivalent with minimum 2.5 CGPA
- NCBA&E Entry Test is mandatory

#### INTRODUCTION

The Master of Environmental Management degree program is of 36 Credit Hours and duration of the program 2 Years. This MS program is specifically designed for professionals to meet current market demands. Important subjects include analytical technique, environmental pollution climate change, health and safety, and solid waste. The MS program is focused on developing student professional skills on environmental health and

safety in industries, environmental monitoring, GIS and remote sensing. Our degree also emphasizes how to work in a team to fit in an organizational setting.



| ROAD MA | AP: MPhil. in Environmental Management | TOTAL S  | EMESTERS: ( | 04 CREDIT HOUR                                  | S: 66    |
|---------|--|----------|-------------|---|----------|
| Semeste | r: 01                                  |          | Semester:   | : 02  |          |
| C.Code  | Subject Name                           | Cr. Hrs. | C.Code      | Subject Name                                    | Cr. Hrs. |
| ENV 509 | Computer Application                   | 3        | ENV 519     | Research Methods In Environmental<br>Management | 3        |
| ENV 510 | Environmental Profile of Pakistan      | 3        | ENV 520     | Environment Health and Safety                   | 3        |
| ENV 507 | Environmental Geology                  | 3        | ENV 521     | Urban Environment                               | 3        |
| ENV 515 | Environmental Pollution                | 3        | ENV 522     | Environment Impact Assessment                   | 3        |
| ENV 516 | Environment Economics                  | 3        | ENV 523     | Natural Resource Management                     | 3        |
| ENV 516 | Introduction to Climate Change         | 3        | ENV 524     | Environment Law and Policies                    | 3        |
|         |  |          |             |   |          |
|         | Total                                  | 18       |             | Total   | 18       |
| Semeste | r: 03                                  |          | Semester:   | : 04  |          |
| C.CODE  | Subject Name                           | Cr. Hrs. | C.CODE      | Subject Name                                    | Cr. Hrs. |
| ENV 605 | Environmental Chemistry                | 3        | ENV 524     | Analytical Techniques In Ecological System      | 3        |
| ENV 601 | Water Pollution and Control            | 3        | ENV 617     | Environmental Monitoring                        | 3        |
| ENV 621 | Air Quality Management                 | 3        | ENV 622     | Project/Thesis (optional)                       | 6        |
| ENV 603 | Solid Waste Management                 | 3        |             |   |          |
| ENV 616 | GIS & Remote Sensing                   | 3        |             |   |          |
| ENV 606 | Urban Planning and Environment         | 3        |             |   |          |
|         |  |          |             |   |          |
|         | Total                                  | 18       |             | Total   | 12       |

# School of Computer Science

ADP Programs

Undergraduate Programs

MS/M.Phil. Programs

Ph.D. Program



#### **VISION**

The School of Computer Sciences will have a transformative impact on the society through continual innovation in education, research, creativity, and entrepreneurship. The School of Computer Sciences has the vision to create the most conducive environment for quality, academic, research-oriented undergraduate and postgraduate education in the field of Computer Science to prepare the students for a globalized technological society and orient them towards serving society.

#### **MISSION**

The mission of the School of Computer Sciences is to contribute to the society through the pursuit of education, learning, and research at the highest international levels of excellence. The School of Computer Sciences has a mission to create a transformative educational experience for the students focused on deep disciplinary knowledge. The institute has exquisitely concerned to train the students effectively to resolute the real-world problems thus amplifying their potential for lifelong high-quality careers and give them a competitive an advantage in the ever-changing the global work environment of the 21st century.

#### Dr. Sagheer Abbas

#### Dean School of Computer Science

#### Message

On behalf of students, faculty and administration, I am pleased to welcome you to the School of Computer Sciences, a diverse platform in the heart of Lahore. Our school of computer science focuses on providing a quality education for our students, partnering with the professional communities of computer sciences, and providing a secure connection between students' knowledge and professional practice for future needs. School of computer science offers Bachelors of Computer Science (BSCS), Bachelors of Software Engineering (BSSE), Bachelors of Information Technology (BSIT), Master of Philosophy in Computer Science (MPhil-CS) and Doctor of Philosophy in Computer Science (PhD-CS).

Our school of computer science is one of Pakistan's leading platforms, helping you reshape your future to become a valuable asset to the nation. We train our students with the knowledge, innovation, skills and support they need now and in the future to contribute effectively to national and global development.

We provide our students state of art infrastructure and the opportunities to excel in upcoming challenges of life. Being well aware of rapid advancements in the multi-disciplines of computer's field, we are keen to provide our students with the latest skills and competencies required to fulfil the emerging demands of the scientific and industrial communities. Hoping for your better career, I invite you to join NCBA&E Family and become part of tremendous growth even at a faster pace for your better future.



# Associate Degree Programs



**Computer Science** 



Information Technology



Software Engineering



Web Design & Development

#### Associate Degree Program (Computer Science)

**Program Duration:** 2 Years

■ **Timing:** Morning (Monday-Friday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

 12 Years of Education or Equivalent with minimum 45% marks

NCBA&E Entry Test is mandatory

#### **Program Objectives**

The Strategic objectives of Associate Degree in Computer Science are to develop elearning student with knowledge of concepts, theories, application and practices associated with the computer science field, to prepare elearning student with an innovative practices related to computer science application and enhance the programming skills.

#### Description

The Associate Degree Program in Computer Science has been designed to equip the students with requisite knowledge and provide Computer Science skills that will enable them to capitalize on the growing career opportunities in the computer science sector and to expand the limits of their knowledge by pursuing further studies.



|          |                                     |           |            |                                     | 48        |
|----------|-------------------------------------|-----------|------------|-------------------------------------|-----------|
| ROAD MA  | P: Computer Science                 | TOTAL     | . SEMESTER | RS 04 CREDIT HOU                    | RS 66     |
| Semester | r: 01                               |           | Semeste    | er: 02                              |           |
| Sr.#     | Subject Name                        | Cr. Hrs.  | Sr.#       | Subject Name                        | Cr. Hrs.  |
| 01       | Inroduction to ICT                  | 2, 1      | 06         | Communication & Presentation Skills | 3, 0      |
| 02       | Programming Fundamentals            | 3, 1      | 07         | Digital Logic Design                | 3, 1      |
| 03       | Calculus -I                         | 3, 0      | 08         | Multi Variate Calculus              | 3, 0      |
| 04       | English Composition & Comprehension | 3, 0      | 09         | Object Oriented Programming         | 3, 1      |
| 05       | Islamic Studies/Pakistan Studies    | 2, 0      | 10         | Probability & Statistics            | 3, 0      |
|          |                                     |           |            |                                     |           |
|          |                                     |           |            |                                     |           |
|          | Total                               | 13+2 = 15 |            | Total                               | 15+2 = 17 |
| Semester | : 03                                |           | Semeste    | er: 04                              |           |
| Sr.#     | Subject Name                        | Cr. Hrs.  | Sr.#       | Subject Name                        | Cr. Hrs.  |
| 11       | Data Structures & Algorithms        | 3, 1      | 16         | Operating System                    | 3, 1      |
| 12       | COmp. Organization & Assembly Lang. | 3, 1      | 17         | Design & Analysis of Algorithm      | 3, 0      |
| 13       | Discrete Structure                  | 3, 0      | 18         | Database Systems                    | 3, 1      |
| 14       | Elective-l                          | 3, 0      | 19         | Elective-II                         | 3, 0      |
| 15       | Project -I                          | 3, 0      | 20         | Project -II                         | 3, 0      |
|          |                                     |           |            |                                     |           |
|          |                                     |           |            |                                     |           |
|          | Total                               | 15+3 = 17 |            | Total                               | 15+2 = 17 |
|          |                                     |           |            |                                     |           |

#### Associate Degree Program (Information Technology)

**Program Duration:** 2 Years

■ **Timing:** Morning (Monday-Friday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

 12 Years of Education or Equivalent with minimum 45% marks

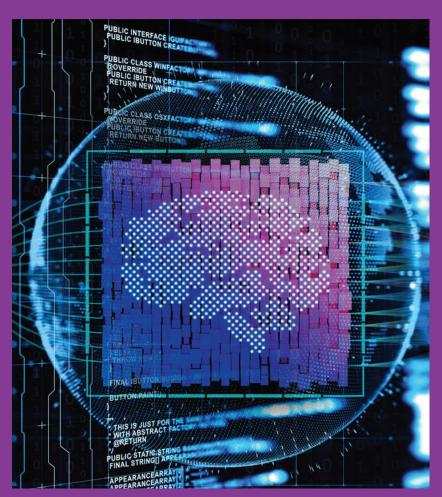
■ NCBA&E Entry Test is mandatory

#### **Program Objectives**

Students in this program will study in our computer laboratories on old and new technology allowing them to enter the workforce with relevant skills for today's IT industry.

#### Description

Information technology is a dynamic industry, with growing demand for key technical skills becoming more prevalent across a variety of sectors. Seize your opportunities for career progression in IT with a qualification from NCBA&E. This practical two-year associate degree gives you the basic skills required to perform a range of in-demand specialist IT functions such as technical support, software development/installation, network engineering/administration.



| ROAD MA                | AP: Information Technology  | TOTAL                        | . SEMESTEF              | RS 04 CREDIT HOU  | JRS 66                       |
|------------------------|---|------------------------------|-------------------------|---|------------------------------|
| Semester               | r: 01   |                              | Semeste                 | er: 02  |                              |
| Sr.#                   | Subject Name  | Cr. Hrs.                     | Sr.#                    | Subject Name  | Cr. Hrs.                     |
| 01                     | Inroduction to ICT  | 2, 1                         | 06                      | Communication & Presentation Skills   | 3, 0                         |
| 02                     | Programming Fundamentals  | 3, 1                         | 07                      | Formal Methods  | 3, 0                         |
| 03                     | Calculus -I   | 3, 0                         | 08                      | Multi Variate Calculus  | 3, 0                         |
| 04                     | English Composition & Comprehension   | 3, 0                         | 09                      | Object Oriented Programming   | 3, 1                         |
| 05                     | Islamic Studies/Pakistan Studies  | 2, 0                         | 10                      | Probability & Statistics  | 3, 0                         |
|                        |   |                              |                         |   |                              |
|                        |   |                              |                         |   |                              |
|                        |   |                              |                         |   |                              |
|                        | Total   | 13+2 = 15                    |                         | Total   | 15+2 = 16                    |
| Semester               |   | 13+2 = 15                    | Semeste                 |   | 15+2 = 16                    |
| Semester<br>Sr.#       |   | 13+2 = 15<br>Cr. Hrs.        | Semeste                 |   | 15+2 = 16<br>Cr. Hrs.        |
|                        | r: 03   | <u> </u>                     |                         | er: 04  |                              |
| Sr.#                   | <br>r: 03<br>  Subject Name   | Cr. Hrs.                     | Sr.#                    | l<br>er: 04<br>Subject Name   | Cr. Hrs.                     |
| <b>Sr.#</b><br>11      | Subject Name  Data Structures & Algorithms  | <b>Cr. Hrs.</b> 3,1          | <b>Sr.#</b>             | Subject Name Operating System   | Cr. Hrs.                     |
| Sr.#<br>11<br>12       | Subject Name  Data Structures & Algorithms  Comp. Organization & Assembly Lang.                                 | Cr. Hrs. 3,1 3,1             | <b>Sr.#</b><br>16<br>17 | Subject Name Operating System Design & Analysis of Algorithm                              | Cr. Hrs. 3,1 3,1             |
| Sr.#<br>11<br>12<br>13 | Subject Name  Data Structures & Algorithms  Comp. Organization & Assembly Lang.  Discrete Structure             | Cr. Hrs.  3,1  3,1  3,0      | Sr.#<br>16<br>17<br>18  | Subject Name Operating System Design & Analysis of Algorithm Database Systems             | Cr. Hrs. 3,1 3,1 3,1         |
| Sr.# 11 12 13 14       | Subject Name  Data Structures & Algorithms  Comp. Organization & Assembly Lang.  Discrete Structure  Elective-I | Cr. Hrs.  3,1  3,1  3,0  3,0 | Sr.#<br>16<br>17<br>18  | Subject Name Operating System Design & Analysis of Algorithm Database Systems Elective-II | Cr. Hrs.  3,1  3,1  3,1  3,0 |
| Sr.# 11 12 13 14       | Subject Name  Data Structures & Algorithms  Comp. Organization & Assembly Lang.  Discrete Structure  Elective-I | Cr. Hrs.  3,1  3,1  3,0  3,0 | Sr.#<br>16<br>17<br>18  | Subject Name Operating System Design & Analysis of Algorithm Database Systems Elective-II | Cr. Hrs.  3,1  3,1  3,1  3,0 |

#### Associate Degree Program (Software Engineering)

**Program Duration:** 2 Years

■ **Timing:** Morning (Monday-Friday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

 12 Years of Education or Equivalent with minimum 45% marks

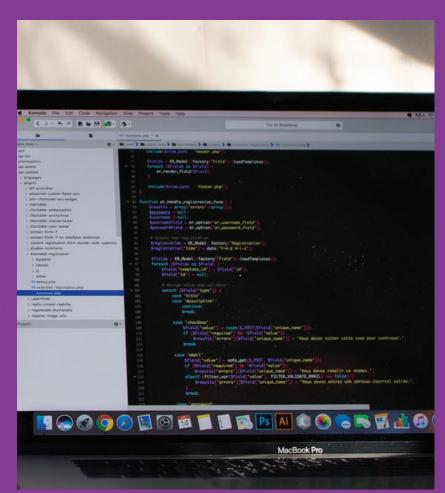
NCBA&E Entry Test is mandatory

#### **Program Objectives**

Through a program that emphasizes hands-on learning putting theory into practice, and working with cutting-edge technologies.

#### Description

Software Engineering is an in-demand and high-paying field, and is an ideal career path for driven individuals with technical aptitude. Designed for working adults, NCBA&E's online associate degree in software engineering is designed to build upon your existing technical skillset and provide you with a solid foundation of knowledge to confidently move forward in the world of software development. An Associate Degree in Software Engineering can provide ample opportunities for an exciting career. This is a quickly growing and expanding field and as such, career opportunities.



| ROAD MA              | AP: Software Engineering   | TOTAL                        | SEMESTER             | RS 04 CREDIT HO   | URS 66                       |
|----------------------|--|------------------------------|----------------------|---|------------------------------|
| Semester             | r: 01  |                              | Semeste              | er: 02  |                              |
| Sr.#                 | Subject Name   | Cr. Hrs.                     | Sr.#                 | Subject Name  | Cr. Hrs.                     |
| 01                   | Inroduction to ICT   | 2, 1                         | 06                   | Communication & Presentation Skills                                       | 3, 0                         |
| 02                   | Programming Fundamentals   | 3, 1                         | 07                   | Discrete Structure  | 3, 0                         |
| 03                   | Calculus -I  | 3, 0                         | 08                   | Multi Variate Calculus  | 3, 0                         |
| 04                   | English Composition & Comprehension  | 3, 0                         | 09                   | Object Oriented Programming   | 3, 1                         |
| 05                   | Islamic Studies/Pakistan Studies   | 2, 0                         | 10                   | Software Engineering  | 3, 0                         |
|                      |  |                              | 11                   | Pakistan Studies  | 2, 0                         |
|                      |  |                              |                      |   |                              |
|                      | Total  | 13+2 = 15                    |                      | Total   | 15+2 = 18                    |
| Semester             | r: 03  |                              | Semeste              | er: 04  |                              |
| C 44                 |  |                              |                      |   |                              |
| Sr.#                 | Subject Name   | Cr. Hrs.                     | Sr.#                 | Subject Name  | Cr. Hrs.                     |
| 12                   | Subject Name  Data Structures & Algorithms   | <b>Cr. Hrs.</b>              | <b>Sr.</b> #         | Subject Name Operating System   | <b>Cr. Hrs.</b> 3, 1         |
|                      |  |                              |                      |   |                              |
| 12                   | Data Structures & Algorithms   | 3, 1                         | 16                   | Operating System  | 3, 1                         |
| 12<br>13             | Data Structures & Algorithms Software Requirement Engineering  | 3, 1<br>3, 0                 | 16<br>17             | Operating System Probability & Statistics                                 | 3, 1<br>3, 0                 |
| 12<br>13<br>14       | Data Structures & Algorithms  Software Requirement Engineering  Human Computer Interaction             | 3, 1<br>3, 0<br>3, 0         | 16<br>17<br>18       | Operating System  Probability & Statistics  Database Systems              | 3, 1<br>3, 0<br>3, 1         |
| 12<br>13<br>14<br>15 | Data Structures & Algorithms  Software Requirement Engineering  Human Computer Interaction  Elective-I | 3, 1<br>3, 0<br>3, 0<br>3, 0 | 16<br>17<br>18<br>19 | Operating System  Probability & Statistics  Database Systems  Elective-II | 3, 1<br>3, 0<br>3, 1<br>3, 0 |
| 12<br>13<br>14<br>15 | Data Structures & Algorithms  Software Requirement Engineering  Human Computer Interaction  Elective-I | 3, 1<br>3, 0<br>3, 0<br>3, 0 | 16<br>17<br>18<br>19 | Operating System  Probability & Statistics  Database Systems  Elective-II | 3, 1<br>3, 0<br>3, 1<br>3, 0 |

#### Associate Degree Program (Web Design & Development)

**Program Duration:** 2 Years

■ **Timing:** Morning (Monday-Friday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

 12 Years of Education or Equivalent with minimum 45% marks

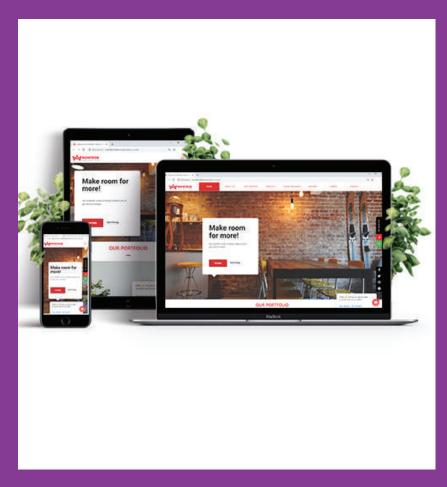
■ NCBA&E Entry Test is mandatory

#### **Program Objectives**

Web Design and Management associate degree program enables graduates with a range of skills applicable for many job opportunities.

#### Description

Associate Degree Program in Web Design and Management equips the students with such skills that enables them to develop websites/portals using cutting edge technology. Today's businesses and organizations survive and thrive due to their presence in cyberspace. A dynamic and captivating websites enhances the business and, thus there is always a need for the professional web designers and managers.



| ROAD MA                | P: Web Design & Development   | TOTAL                            | . SEMESTEF              | RS 04 CREDIT HOUI  | RS 66                            |
|------------------------|---|----------------------------------|-------------------------|--|----------------------------------|
| Semester               | : 01  |                                  | Semeste                 | er: 02   |                                  |
| Sr.#                   | Subject Name  | Cr. Hrs.                         | Sr.#                    | Subject Name   | Cr. Hrs.                         |
| 01                     | Inroduction to ICT  | 2, 1                             | 06                      | Business & Technical Writing   | 3, 0                             |
| 02                     | Programming Fundamentals  | 3, 1                             | 07                      | Object Oriented Programming  | 3, 1                             |
| 03                     | Calculus -I   | 3, 0                             | 08                      | Calculus -II   | 3, 0                             |
| 04                     | English Composition & Comprehension   | 3, 0                             | 09                      | Database Systems   | 3, 1                             |
| 05                     | Islamic Studies/Pakistan Studies  | 2, 0                             | 10                      | Web Design   | 3, 1                             |
|                        |   |                                  |                         |  |                                  |
|                        |   |                                  |                         |  |                                  |
|                        |   |                                  |                         |  |                                  |
|                        | Total   | 13+2 = 15                        |                         | Total  | 15+3 = 18                        |
| Semester               |   | 13+2 = 15                        | Semeste                 |  | 15+3 = 18                        |
| Semester<br>Sr.#       |   | 13+2 = 15<br>Cr. Hrs.            | Semeste                 |  | 15+3 = 18<br>Cr. Hrs.            |
|                        | : 03  |                                  |                         | l<br>er: 04  | 1                                |
| Sr.#                   | : 03<br>Subject Name  | Cr. Hrs.                         | Sr.#                    | er: 04 Subject Name  | Cr. Hrs.                         |
| <b>Sr.#</b>            | : 03 Subject Name Data Structures & Algorithms  | Cr. Hrs.                         | <b>Sr.#</b>             | er: 04 Subject Name Operating System                                       | <b>Cr. Hrs.</b> 3, 1             |
| Sr.#<br>12<br>13       | : 03  Subject Name  Data Structures & Algorithms  Computer Networks                             | Cr. Hrs. 3,1 3,1                 | <b>Sr.#</b><br>16<br>17 | Subject Name Operating System Web Engineering                              | Cr. Hrs. 3, 1 3, 0               |
| Sr.#<br>12<br>13<br>14 | Subject Name  Data Structures & Algorithms  Computer Networks  Software Engineering             | Cr. Hrs.  3, 1  3, 1  3, 0       | Sr.#<br>16<br>17<br>18  | Subject Name Operating System Web Engineering Web Technologies             | Cr. Hrs. 3, 1 3, 0 3, 0          |
| Sr.# 12 13 14 15       | Subject Name  Data Structures & Algorithms  Computer Networks  Software Engineering  Elective-I | Cr. Hrs.  3, 1  3, 1  3, 0  3, 0 | Sr.#<br>16<br>17<br>18  | Subject Name Operating System Web Engineering Web Technologies Elective-II | Cr. Hrs.  3, 1  3, 0  3, 0  3, 0 |
| Sr.# 12 13 14 15       | Subject Name  Data Structures & Algorithms  Computer Networks  Software Engineering  Elective-I | Cr. Hrs.  3, 1  3, 1  3, 0  3, 0 | Sr.#<br>16<br>17<br>18  | Subject Name Operating System Web Engineering Web Technologies Elective-II | Cr. Hrs.  3, 1  3, 0  3, 0  3, 0 |



#### **Bachelor of Science in Computer Science**

**Program Duration:** 4 Years

Timing: Morning (Monday-Friday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

12 Years of Education or Equivalent with minimum
 50% marks

NCBA&E Entry Test is mandatory

#### Introduction

The Bachelor of Science in Computer Science (BSCS) is a professional degree program aimed at producing graduates for the job market as software engineers, entrepreneurs, IT consultant and academia professionals. The program is tailored to provide a strong foundation of knowledge and skills and ability to think critically. We are offering the market oriented courses that are already defined in our road-map. The program enables the students to think logically, critically and also enables the students to analyze the critical problems. Computer scientists understand how software and hardware works and deveolped. The computer scientists also design the optimal solutions and implement it using latest tools and technologies.



| ROAD MA | AP: BS in Computer Science              | TOTAL :     | SEMESTERS | S 08 CREDIT HO                      | OURS 130    |
|---------|---|-------------|-----------|-------------------------------------|-------------|
| Semeste | r: 01                                   |             | Semest    | er: 02                              |             |
| C.Code  | Subject Name                            | Cr. Hrs.    | C.Code    | Subject Name                        | Cr. Hrs.    |
| CS 101  | Introduction to ICT                     | 2, 1        | CS 104    | Object Oriented Programming         | 3, 0        |
| CS 102  | Programming Fundamentals                | 3, 0        | CSL 104   | Object Oriented Programming Lab     | 0,1         |
| CSL 102 | Programming Fundamentals Lab            | 0, 1        | HU 102    | Communication & Presentation Skills | 3, 0        |
| HU 101  | English Composition & Comprehension     | 3, 0        | CS103     | Digital Logic Design                | 3, 0        |
| MT 101  | Calculus & Analytical Geometry          | 3, 0        | CSL 103   | Digital Logic Design Lab            | 0, 1        |
| NS 101  | Applied Physics                         | 3, 0        | MT 102    | Probability & Statistics            | 3,0         |
|         |   |             | UE 101    | Financial Accounting                | 3, 0        |
|         | Total                                   | 14 + 2= 16  |           | Total                               | 15 + 2 = 17 |
| Semeste | r: 03                                   |             | Semest    | er: 04                              |             |
| C.Code  | Subject Name                            | Cr. Hrs.    | C.Code    | Subject Name                        | Cr. Hrs.    |
| CS 202  | Data Structures & Algorithms            | 3, 0        | CS 104    | Design & Analysis of Algorithms     | 3, 0        |
| CSL 202 | Data Structure & Algorithm Lab          | 0, 1        | CS 205    | Theory of Automata                  | 3, 0        |
| CS 203  | Discrete Structures                     | 3, 0        | CS 206    | Database Systems                    | 3, 0        |
| HU 201  | Islamic Studies / Ethics                | 2, 0        | CSL 206   | Database Systems Lab                | 0, 1        |
| SC 201  | Multi-Variant Calculus                  | 3, 0        | MT 201    | Linear Algebra                      | 3, 0        |
| CS 201  | Comp. Organization & Assembly Lang.     | 3, 0        | UE 201    | Foreign Language                    | 3, 0        |
| CSL 201 | Comp. Organization & Assembly Lang. Lab | 0, 1        |           |                                     |             |
|         | Total                                   | 14 + 2 = 16 |           | Total                               | 15 + 1 = 16 |

| ROAD MAP: BS in Computer Science |                                  | TOTAL SEMESTERS 08 |              | S 08 CREDIT HO               | CREDIT HOURS 130 |  |
|----------------------------------|----------------------------------|--------------------|--------------|------------------------------|------------------|--|
| Semeste                          | Semester: 05                     |                    | Semest       | er: 06                       |                  |  |
| C.Code                           | Subject Name                     | Cr. Hrs.           | S.Code       | Subject Name                 | Cr. Hrs.         |  |
| CS 301                           | Compiler Construction            | 3,0                | CS 304       | Artificial Intelligence      | 3,0              |  |
| SC 301                           | Differential Equations           | 3,0                | CSL 304      | Artificial Intelligence Lab  | 0,1              |  |
| CS 302                           | Operating Systems                | 3,0                | CS 305       | Computer Networks            | 3,0              |  |
| CSL 302                          | Operating Systems Lab            | 0,1                | CSL 305      | Computer Networks Lab        | 0,1              |  |
| CS 303                           | Software Engineering             | 3,0                | CS 306       | CS Elective – 1              | 3,0              |  |
| SC 302                           | Numerical Computing              | 3,0                | CS 307       | CS Elective – 2              | 3,0              |  |
|                                  |                                  |                    | HU 301       | Technical & Business Writing | 3,0              |  |
|                                  | Total                            | 15 + 1 = 16        |              | Total                        | 15 + 2 = 17      |  |
| Semeste                          | Semester: 07                     |                    | Semester: 08 |                              |                  |  |
| C.Code                           | Subject Name                     | Cr. Hrs.           | C.Code       | Subject Name                 | Cr. Hrs.         |  |
| CS 401                           | CS Elective – 3                  | 3,0                | CS 405       | CS Elective – 5              | 3,0              |  |
| CS 402                           | CS Elective – 4                  | 3,0                | UE 402       | Human Resource Management    | 3,0              |  |
| CS 403                           | Final Year Project – I           | 0,3                | CS 406       | Final Year Project – II      | 0,3              |  |
| UE 401                           | Introduction to Economics        | 3,0                | CS 407       | Information Security         | 3,0              |  |
| CS 404                           | Parallel & Distributed Computing | 3,0                | HU 402       | Professional Practices       | 3,0              |  |
| HU 401                           | Pakistan Studies                 | 2,0                |              |                              |                  |  |
|                                  |                                  |                    |              |                              |                  |  |
|                                  | Total                            | 14 + 3 = 17        |              | Total                        | 12 + 3 = 15      |  |

#### **Bachelor of Science in Software Engineering**

**Program Duration:** 4 Years

■ Timing: Morning (Monday-Friday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 12 Years of Education or Equivalent with minimum
   50% marks
- NCBA&E Entry Test is mandatory

#### Introduction

The program Software Engineering plays a central role in developing information systems by designing, developing, and installing software solutions. It determines operational feasibility by evaluating analysis, problem definition, requirements, solution development, proposed solutions, and develops software solutions by studying information needs, conferring with users, and studying systems flow, data usage, and work processes. A software engineer investigates the problem areas and follows the software development lifecycle. Softdemonstrates solutions by developing documentation, flowcharts, layouts, diagrams, charts, code comments and clear code. It prepares and installs solutions by determining and designing system specifications, standards, and programming. The department aims to train students in all aspects of software life cycle from specification through analysis and design to testing, maintenance and evaluations of software product.



|                      |  |             |              |                                     | 60          |  |
|----------------------|--|-------------|--------------|-------------------------------------|-------------|--|
| ROAD MA              | P: BS in Software Engineering              | TOTAL S     | SEMESTERS    | S 08 CREDIT HO                      | DURS 130    |  |
| Semester: 01         |  |             | Semester: 02 |                                     |             |  |
| C.Code               | Subject Name                               | Cr. Hrs.    | C.Code       | Subject Name                        | Cr. Hrs.    |  |
| CS 101               | Introduction to Info. & Comm. Technologies | 2, 1        | CS 104       | Object Oriented Programming         | 3,0         |  |
| CS 102               | Programming Fundamentals                   | 3, 0        | CSL 104      | Object Oriented Programming Lab     | 0,1         |  |
| CSL 102              | Programming Fundamentals Lab               | 0, 1        | HU 102       | Communication & Presentation Skills | 3,0         |  |
| HU 101               | English Composition & Comprehension        | 3, 0        | CS 203       | Discrete Structures                 | 3,0         |  |
| MT 101               | Calculus & Analytical Geometry             | 3, 0        | CS 303       | Software Engineering                | 3,0         |  |
| HU 401               | Pakistan Studies                           | 2, 0        | HU 201       | Islamic Studies                     | 2,0         |  |
| NS 101               | Applied Physics                            | 3, 0        | UE 101       | Financial Accounting                | 3,0         |  |
|                      | Total                                      | 16 + 2 = 18 |              | Total                               | 17 + 1 = 18 |  |
| Semester             | : 03                                       |             | Semeste      | er: 04                              |             |  |
| C.Code               | Subject Name                               | Cr. Hrs.    | C.Code       | Subject Name                        | Cr. Hrs.    |  |
| CS 202               | Data Structures & Algorithms               | 3,1         | CS 302       | Operating Systems                   | 3,0         |  |
| SE 201               | Software Requirement Engineering           | 3,0         | CSL 302      | Operating Systems Lab               | 0,1         |  |
| SE 202               | Human Computer Interaction                 | 3,0         | CS 206       | Database Systems                    | 3,0         |  |
| ) 4 <del>T</del> 007 |  | 7.0         | 001 006      | 5.1.6                               |             |  |

| HU 101   | English Composition & Comprehension | 3, 0        | CS 203  | Discrete Structures            | 3,0         |
|----------|-------------------------------------|-------------|---------|--------------------------------|-------------|
| MT 101   | Calculus & Analytical Geometry      | 3, O        | CS 303  | Software Engineering           | 3,0         |
| HU 401   | Pakistan Studies                    | 2, 0        | HU 201  | Islamic Studies                | 2,0         |
| NS 101   | Applied Physics                     | 3, 0        | UE 101  | Financial Accounting           | 3,0         |
|          | Total                               | 16 + 2 = 18 |         | Total                          | 17 + 1 = 18 |
| Semester | r: 03                               |             | Semeste | er: 04                         |             |
| C.Code   | Subject Name                        | Cr. Hrs.    | C.Code  | Subject Name                   | Cr. Hrs.    |
| CS 202   | Data Structures & Algorithms        | 3,1         | CS 302  | Operating Systems              | 3,0         |
| SE 201   | Software Requirement Engineering    | 3,0         | CSL 302 | Operating Systems Lab          | 0,1         |
| SE 202   | Human Computer Interaction          | 3,0         | CS 206  | Database Systems               | 3,0         |
| MT 201   | Linear Algebra                      | 3,0         | CSL 206 | Database Systems Lab           | 0,1         |
| UE 201   | Foreign Language                    | 3,0         | SE 203  | Software Design & Architecture | 2,1         |
|          |                                     |             | MT 102  | Probability and Statistics     | 3,0         |
|          |                                     |             | UE 401  | Introduction to Economics      | 3,0         |
|          | Total                               | 15 + 1 = 16 |         | Total                          | 14 + 3 = 17 |
|          |                                     |             |         |                                |             |

| ROAD M   | TOTAL                                  | TOTAL SEMESTERS 08 |         | CREDIT HOURS 130           |          |  |  |  |
|----------|--|--------------------|---------|----------------------------|----------|--|--|--|
| Semester | Semester: 05                           |                    | Semeste | er: 06                     |          |  |  |  |
| C.Code   | Subject Name                           | Cr. Hrs.           | C.Code  | Subject Name               | Cr. Hrs. |  |  |  |
| SE 301   | Software Construction and Development  | 2, 1               | SE 302  | Software Quality Assurance | 3, 0     |  |  |  |
| CS 305   | Computer Networks                      | 3, 0               | CS 407  | Information Security       | 3, 0     |  |  |  |
| CSL 305  | Computer Networks Lab                  | 0, 1               | HU 402  | Professional Practices     | 3, 0     |  |  |  |
| HU 301   | Technical and Business Writing         | 3, 0               | SE 303  | Web Engineering            | 3, 0     |  |  |  |
| SC 301   | Formal Methods in Software Engineering | 3, 0               | SE 304  | SE Elective – I            | 3, 0     |  |  |  |
| SC 302   | Operations Research                    | 3, 0               | SE 305  | Simulation and Modeling    | 3, 0     |  |  |  |
|          |  |                    |         |                            |          |  |  |  |
|          | Total                                  | 14 + 2 = 16        |         | Total                      | 18       |  |  |  |
| Semester | Semester: 07                           |                    |         | Semester: 08               |          |  |  |  |
| C.Code   | Subject Name                           | Cr. Hrs.           | C.Code  | Subject Name               | Cr. Hrs. |  |  |  |
| SE 411   | Software Project Management            | 3,0                | SE 4xx  | SE Elective – IV           | 3, 0     |  |  |  |
| SE 412   | Software Re-Engineering                | 3,0                | SE 4xx  | SE Elective – V            | 3, 0     |  |  |  |
| SE 4xx   | SE Elective -II                        | 3,0                | SE 402  | Final Year Project - II    | 0, 3     |  |  |  |
| SE 4xx   | SE Elective - III                      | 3,0                | UE 301  | Human Resource Management  | 3, 0     |  |  |  |
| SE 401   | Final Year Project - I                 | 0,3                |         |                            |          |  |  |  |
|          |  |                    |         |                            |          |  |  |  |
|          |  |                    |         |                            |          |  |  |  |
|          |  |                    |         |                            |          |  |  |  |

# Bachelor of Science in Information Technology

**Program Duration:** 4 Years

Timing: Morning (Monday-Friday)

Location: Lahore
 Recognized By:
 Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

12 Years of Education or Equivalent with minimum
 50% marks

NCBA&E Entry Test is mandatory

### Introduction

Information Technology (IT) plays important part in education systems. Essentially, IT professionals are the innovative users of technology. Mostly IT utilizes existing software, applications and operating systems in tandem to create a larger system that solves a specific business problem. IT constructs a network from established building blocks to carry out a task, such as an automated supplies ordering service. Due to the nature of the work, IT professionals are more likely to interact with clients and co-workers outside of their department. They may help explain to a client how to solve technology problems or work with executives and business owners to construct a technology plan that will meet their business needs. IT students will study network and database design in depth, and receive an introduction to basic theory and applied mathematics. Successful IT candidates will possess strong critical thinking skills; IT professionals are tasked with resourcefully and cost-effectively applying the tools at their disposal.



| _                                      |                                     |             |           |                                     |                  |  |
|--|-------------------------------------|-------------|-----------|-------------------------------------|------------------|--|
| ROAD MAP: BS in Information Technology |                                     | TOTAL S     | SEMESTERS | CREDIT HO                           | CREDIT HOURS 130 |  |
| Semester                               | r: 01                               |             | Semest    | er: 02                              |                  |  |
| C.Code                                 | Subject Name                        | Cr. Hrs.    | C.Code    | Subject Name                        | Cr. Hrs.         |  |
| CS 101                                 | Introduction to ICT                 | 2, 1        | CS 104    | Object Oriented Programming         | 3, 0             |  |
| CS 102                                 | Programming Fundamentals            | 3, 0        | CSL 104   | Object Oriented Programming Lab     | 0, 1             |  |
| CSL 102                                | Programming Fundamentals Lab        | 0, 1        | HU 102    | Communication & Presentation Skills | 3, 0             |  |
| HU 101                                 | English Composition & Comprehension | 3, 0        | IT 101    | Formal Methods                      | 3, 0             |  |
| MT 101                                 | Calculus & Analytical Geometry      | 3, 0        | MT 102    | Probability & Statistics            | 3, 0             |  |
| NS 101                                 | Applied Physics                     | 3, 0        | UE 101    | Financial Accounting                | 3, 0             |  |
|  |                                     |             | UE 401    | Islamic Studies / Ethics            | 2, 0             |  |
|  | Total                               | 14 + 2 = 16 |           | Total                               | 17 +1 = 18       |  |
| Semester                               | r: 03                               |             | Semest    | er: 04                              |                  |  |
| C.Code                                 | Subject Name                        | Cr. Hrs.    | C.Code    | Subject Name                        | Cr. Hrs.         |  |
| CS 202                                 | Data Structures & Algorithms        | 3, 0        | CS 302    | Operating Systems                   | 3,1              |  |
| CSL 202                                | Data Structures & Algorithms Lab    | 0,1         | CSL 302   | Operating Systems Lab               | 0,1              |  |
| CS 203                                 | Discrete Structures                 | 3, 0        | CS 407    | Information Security                | 3,0              |  |
| HU 201                                 | Introduction to Economics           | 3, 0        | CS 305    | Computer Networks                   | 3,0              |  |
| IT 201                                 | Modeling and Simulation             | 3, 0        | CSL 305   | Computer Networks Lab               | 0,1              |  |
| MT 201                                 | Linear Algebra                      | 3, 0        | IT 102    | IT Project Management               | 3,0              |  |
|  |                                     |             |           |                                     |                  |  |
|  | Total                               | 15 + 1 = 16 |           | Total                               | 12 + 3 = 15      |  |

|          |                                       |             |           |  | 0-1              |  |
|----------|---------------------------------------|-------------|-----------|--|------------------|--|
| ROAD MA  | P:BS in Information Technology        | TOTAL       | SEMESTERS | S 08 CREDIT HC                         | CREDIT HOURS 130 |  |
| Semester | <del>:</del> : 05                     |             | Semeste   | er: 06                                 |                  |  |
| C.Code   | Subject Name                          | Cr. Hrs.    | C.Code    | Subject Name                           | Cr. Hrs.         |  |
| CS 206   | Database Systems                      | 3, 0        | IT 302    | Web Technologies                       | 3, 0             |  |
| CSL 206  | Database Systems Lab                  | 0, 1        | IT 401    | IT Infrastructure                      | 3, 0             |  |
| IT 301   | Software Requirements Engineering     | 3, 0        | IT xxx    | IT Elective –I                         | 3, 0             |  |
| IT 202   | System and Network Administration     | 3, 0        | IT xxx    | IT Elective –II                        | 3, 0             |  |
| ITL 202  | System and Network Administration Lab | 0, 1        | HU 301    | Technical and Business Writing         | 3, 0             |  |
| CS 303   | Software Engineering                  | 3, 0        |           |  |                  |  |
| UE 402   | Human Resource Management             | 3, 0        |           |  |                  |  |
|          | Total                                 | 15 + 2 = 17 |           | Total                                  | 15               |  |
| Semester | r: 07                                 |             | Semeste   | er: 08                                 |                  |  |
| C.Code   | Subject Name                          | Cr. Hrs.    | C.Code    | Subject Name                           | Cr. Hrs.         |  |
| IT 4xx   | IT Elective –III                      | 3, 0        | IT 4xx    | IT Elective –V                         | 3, 0             |  |
| IT 4xx   | IT Elective –IV                       | 3, 0        | IT 601    | Cyber Security                         | 3, 0             |  |
| IT 401   | Final Year Project –I                 | 0, 3        | IT 402    | Final Year Project -II                 | 0, 3             |  |
| IT 501   | Virtual Systems and Services          | 3, 0        | IT 701    | Database Administration and Management | 3, 0             |  |
| ITL 501  | Virtual Systems and Services Lab      | 0, 1        | ITL 701   | Theory of Automata                     | 0, 1             |  |
| HU 401   | Pakistan Studies                      | 2, 0        | HU 402    | Professional Practices                 | 3, 0             |  |
|          |                                       |             |           |  |                  |  |
|          | Total                                 | 14 + 1 = 15 |           | Total                                  | 12+ 4 = 16       |  |



# MS/MPhil Program

**Computer Science** 

# Master of Philosophy in Computer Science

**Program Duration:** 2 Years

■ **Timing:** Morning (Monday-Friday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 16 Years of Education in relevant field with minimum 2.50 CGPA.
- NCBA&E Entry Test is mandatory

### Introduction

The Master of Science in Computer Science program is a terminal degree program designed to prepare students for more highly productive careers in industry. The main aim of the degree program is depth of knowledge and research competence in the domain of computer science. The program is designed for students who possess a bachelor's degree in computer science from an accredited institution. Students with a bachelor's degree in other than computer science are encouraged to apply as well, with the understanding that they may be required to complete remedial course work in addition to the requirements of the MS (CS) degree. Students can enhance their skills by embracing new development and training along with the ability to effectively disseminate knowledge. The students are able to apply in particular specialization areas.

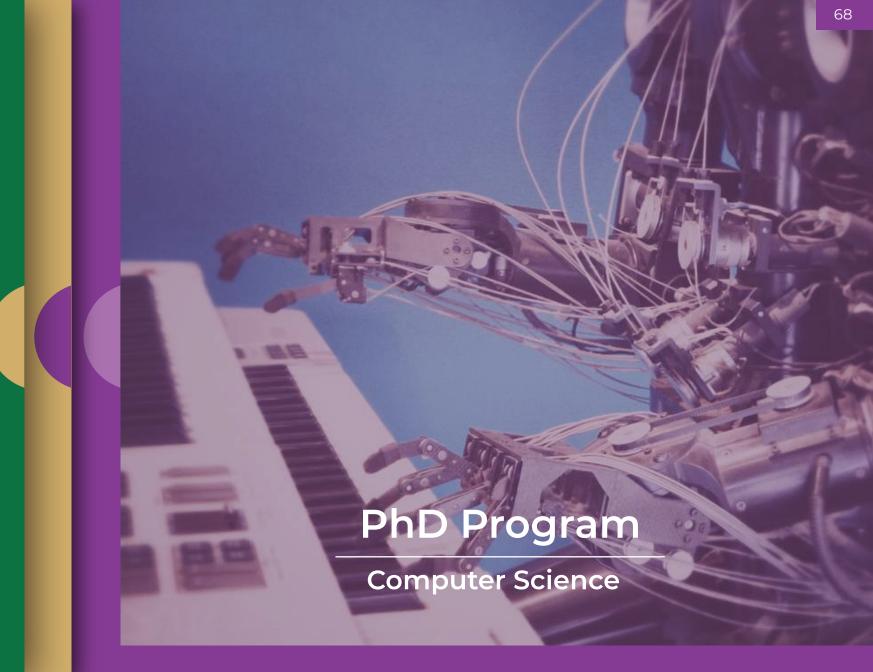


## The specialization areas are as follows:

- Software Engineering
- Cloud Computing
- Artificial Intelligence
- Software-defined Networks
- Big Data Analytics

- Blockchain Technology
- Congnitive Machines
- Smart Cities
- Quantum Computing
- Cloud Robotics

| ROAD MAP: MS / MPhil in Computer Science |                                 | TOTAL SE | MESTERS 04 | 4 CREDIT HOU           | CREDIT HOURS 31 |  |
|--|---------------------------------|----------|------------|------------------------|-----------------|--|
| Semeste                                  | r: 01                           |          | Semeste    | er: 02                 |                 |  |
| C.Code                                   | Subject Name                    | Cr. Hrs. | C.Code     | Subject Name           | Cr. Hrs.        |  |
| CS 501                                   | Advanced Analysis of Algorithms | 3        | CS 534     | Theory of Automata -II | 3               |  |
| CS 505                                   | Advanced Operating Systems      | 3        | CS 5xx     | Elective -I            | 3               |  |
| CS 507                                   | Theory of Programming Languages | 3        | CS 5xx     | Elective -II           | 3               |  |
|  |                                 |          | SS 3xx     | Research Methodology   | 1               |  |
|  |                                 |          |            |                        |                 |  |
|  |                                 |          |            |                        |                 |  |
|  |                                 |          |            |                        |                 |  |
|  | Total                           | 9        |            | Total                  | 10              |  |
| Semeste                                  | r: 03                           |          | Semeste    | er: 04                 |                 |  |
| C.Code                                   | Subject Name                    | Cr. Hrs. | C.Code     | Subject Name           | Cr. Hrs.        |  |
| CS 5xx                                   | Elective -III                   | 3        | CS 5xx     | Elective -IV           | 3               |  |
| CS 5xx                                   | MS Thesis -I                    | 3        | CS 5xx     | MS Thesis -II          | 3               |  |
|  |                                 |          |            |                        |                 |  |
|  |                                 |          |            |                        |                 |  |
|  |                                 |          |            |                        |                 |  |
|  |                                 |          |            |                        |                 |  |
|  |                                 |          |            |                        |                 |  |
|  |                                 |          |            |                        |                 |  |



# **Doctor of Philosophy in Computer Science**

**Program Duration:** 3 Years

■ **Timing:** Morning (Monday-Friday)

Location: Lahore
 Recognized By:
 Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 18 Years of Education in relevant field with minimum 3.00 CGPA.
- Entry Test is mandatory

### Introduction

The Doctoral degree in Computer Science is considered to be the core of the department and is profoundly integrated with research based practices and similar activities. This degree ensures to promote the qualities of independent research in the students making them capable of producing following and collaborating different research ideas.



### The specialization areas are as follows:

- Smart Health Care
- Cloud Computing
- Artificial Intelligence
- Software-defined Networks
- Big Data Analytics
- Internet of Things (IoT)

- Blockchain Technology
- Congnitive Computing
- Smart Cities
- Quantum Computing
- Cloud Robotics
- Adaptive Control System

| ROAD MAP: PhD in Computer Science |               | TOTAL SEMESTERS 04 |         | 4 CREDIT HOUR | CREDIT HOURS 30 |  |
|-----------------------------------|---------------|--------------------|---------|---------------|-----------------|--|
| Semeste                           | Semester: 01  |                    | Semeste | er: 02        |                 |  |
| S.Code                            | Course Title  | Cr. Hrs.           | S.Code  | Course Title  | Cr. Hrs.        |  |
| D 01                              | Deficiency    | 0                  | PHEL04  | Elective -IV  | 3               |  |
| PHEL01                            | Elective -I   | 3                  | PHEL05  | Elective -V   | 3               |  |
| PHEL02                            | Elective -II  | 3                  | PHEL06  | Elective -VI  | 3               |  |
| PHEL03                            | Elective -III | 3                  |         |               |                 |  |
|                                   | Total         | 9                  |         | Total         | 9               |  |
| Semeste                           | r: 03-04      |                    | Semeste | er: 05-06     |                 |  |
| S.Code                            | Course Title  | Cr. Hrs.           | S.Code  | Course Title  | Cr. Hrs.        |  |
|                                   | Synopsis      | 0                  | CS 889  | Dissertation  | 12              |  |
|                                   |               |                    |         |               |                 |  |
|                                   |               |                    |         |               |                 |  |

Total

Total

# **FACULTY OF SOCIAL SCIENCES**

01

Department of Mathematics

02

Department of Economics

03

Department of Statistics

# Dr. Abdul Khalique

## Message

The faculty of Social Sciences consists of three disciplines, Department of Mathematics, Department of Statistics and the Department of Economics, All the three departments are staffed by highly qualified faculty members. Most of the faculty members are focusing on research. By 2021, the faculty of social sciences has produced 103 PhDs (64 in statistics, 16 in mathematics and 23 in Economics) and 168 M.Phils (75 in Statistics, 37 in Mathematics and 56 in Economics) Undergraduate programs are progressing well in mathematics and Economics. Some new programs have been launched as Associate Degree programs and in Statistics some new attractive programs are being launched. Students are invited to join the faculty programs to shape their future careers.



# Department of Mathematics



# **Associate Degree Program**



## Associate Degree Program in Mathematics

#### **Program Duration: 2 Years**

- **Timing:** Morning (Monday-Saturday)
- Location: Lahore (Main Campus)
- Recognized By:

**Higher Education Commission** 

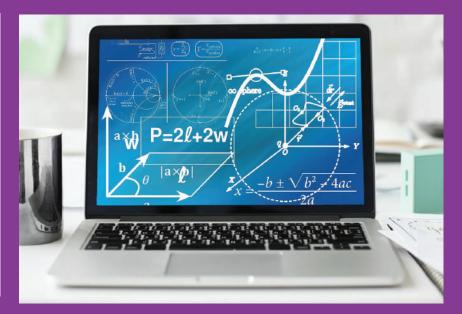
#### **Entery Requirements**

- 12 year of Education, F.A. / F.Sc. / I.C.S with Mathematics
- A-Level, DAE, (Mathematics)
- NCBA&E Test is mandatory

#### INTRODUCTION

This program is intended to equip the young scientists with the techniques of mathematics to solve the problems in the science subjects especially in mathematics and computing science. The ADP two years program not only deal with the science subjects but also give the awareness of the social sciences specially in Economics, Statistics, Computer Science and Mathematics.

The program will be of Four (04) semester's duration with 70 credit hours.



#### The Combinations are as follows:

- Mathematics A, Mathematics B & Computer Science
- Mathematics A, Mathematics B & Statistics
- Mathematics A, Mathematics B & Economics
- Mathematics, Statistics & Economics
- Mathematics, Statistics & Computer Science

|          |                                     |              |          |   | 70              |  |
|----------|-------------------------------------|--------------|----------|---|-----------------|--|
| ROAD MA  | P: ADP in Mathematics               | TOTAL        | SEMESTER | RS 04 CREDIT HOUR                             | CREDIT HOURS 70 |  |
| Semester | : 01                                | Semester: 02 |          | er: 02  |                 |  |
| Sr.#     | Subject Name                        | Cr. Hrs.     | Sr.#     | Subject Name                                  | Cr. Hrs.        |  |
| MATH112  | Calculus-I                          | 3, 0         | MATH113  | Calculus-II                                   | 3, 0            |  |
| CS105    | Introduction to ICT                 | 3, 0         | CS104    | Object Oriented Paradigm                      | 3, 0            |  |
| CS102    | Programming Fundamentals            | 3, 0         | CSL104   | Object Oriented Paradigm Lab                  | 1, 0            |  |
| CSL102   | Programming Fundamentals Lab        | 0, 1         | HU401    | Pakistan Studies                              | 2,0             |  |
| HU101    | English Composition & Comprehension | 3, 0         | HU102    | Communication & Presentation Skills           | 3, 0            |  |
| МАТН101  | Vector Analysis                     | 3, 0         |          | Elements of Set Theory and Mathematical Logic | 3, 0            |  |
| HU201    | Islamic Studies / Ethics            | 2, 0         | STAT 111 | Probability and Statistics                    | 3, 0            |  |
|          | Total                               | 17+1 = 18    |          | Total   | 18              |  |
| Semester | : 03                                |              | Semeste  | er: 04  |                 |  |
| Sr.#     | Subject Name                        | Cr. Hrs.     | Sr.#     | Subject Name                                  | Cr. Hrs.        |  |
| MATH102  | Number Theory                       | 3, 0         | MATH 312 | Differential Equations                        | 3, 0            |  |
| CS203    | Discrete Structures                 | 3, 0         | PSY101   | Psychology                                    | 3, 0            |  |
| CS206    | Database Systems                    | 3, 0         | LANG 204 | Foreign Language- Chinese                     | 3, 0            |  |
| CSL206   | Database Systems Lab                | 1, 0         | STAT 114 | Business Statistics                           | 3, 0            |  |
| MT201    | Linear Algebra                      | 3, 0         | MATH 202 | Mechanics-II                                  | 3, 0            |  |
| MATH201  | Mechanics-I                         | 3, 0         | MATH515  | Computer Tools for Mathematics                | 3, 0            |  |
|          |                                     |              |          |   |                 |  |
|          | Total                               | 16           |          | Total   | 18              |  |

# **Undergraduate Program**

Bachelor of Science in Mathematics

# **Bachelor of Science in Mathematics (Hons)**

#### **Program Duration:** 4 Years

■ **Timing:** Morning (Monday-Saturday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 12 Years of Education, Intermediate, A-Level, DAE with Mathematics and minimum 45% marks
- NCBA&E Test is mandatory

#### Mission

This program is intended to equip the young scientists with the techniques of mathematics to solve the problems in the science subjects especially in mathematics and computing science. The B.S. four years program not only deal with the science subjects but also give the awareness of the social sciences specially in Economics, Statistics, Computer Science and Mathematics.

#### Introduction

The program will be of eight (08) semester's duration with 136 credit hours. However, a student must take 81 compulsory credit hours in Mathematics.



### The Combinations are as follows:

- Mathematics A, Mathematics B & Computer Science
- Mathematics A, Mathematics B & Statistics
- Mathematics A, Mathematics B & Economics
- Mathematics, Statistics & Economics
- Mathematics, Statistics & Computer Science

| ROAD MAP: BS in Mathematics |                                     | TOTAL SEMESTERS 08 |          | CREDIT HOUR                                   | CREDIT HOURS 136 |  |
|-----------------------------|-------------------------------------|--------------------|----------|---|------------------|--|
| Semester                    | r: 01                               |                    | Semeste  | er: 02  |                  |  |
| C.Code                      | Subject Name                        | Cr. Hrs.           | C.Code   | Subject Name                                  | Cr. Hrs.         |  |
| MATH 112                    | Calculus-I                          | 3, 0               | MATH 113 | Calculus-II                                   | 3, 0             |  |
| CS 105                      | Introduction to ICT                 | 3, 0               | CS 104   | Object Oriented Paradigm                      | 3, 0             |  |
| CS 102                      | Programming Fundamentals            | 3, 0               | CSL 104  | Object Oriented Paradigm Lab                  | 1, 0             |  |
| CSL 102                     | Programming Fundamentals Lab        | 1, O               | HU 401   | Pakistan Studies                              | 2, 0             |  |
| HU 101                      | English Composition & Comprehension | 3, 0               | HU 102   | Communication & Presentation Skills           | 3, 0             |  |
| MATH 101                    | Vector Analysis                     | 3, 0               | MATH 577 | Elements of Set Theory and Mathematical Logic | 3, 0             |  |
| HU 201                      | Islamic Studies / Ethics            | 2, 0               | STAT 111 | Probability and Statistics                    | 3, 0             |  |
|                             | Total                               | 18                 |          | Total   | 18               |  |
| Semester                    | r: 03                               |                    |          |   |                  |  |
| C.Code                      | Subject Name                        | Cr. Hrs.           | C.Code   | Subject Name                                  | Cr. Hrs.         |  |
| MATH102                     | Number Theory                       | 3, 0               | SC 301   | Differential Equations                        | 3, 0             |  |
| CS203                       | Discrete Structures                 | 3, 0               | PSY 101  | Psychology                                    | 3, 0             |  |
| CS 206                      | Database Systems                    | 3, 0               | UE 201   | Foreign Language- Chinese                     | 3, 0             |  |
| CSL 206                     | Database Systems Lab                | 1, O               | STAT 114 | Business Statistics                           | 3, 0             |  |
| MT 201                      | Linear Algebra                      | 3, 0               | MATH 202 | Mechanics-II                                  | 3, 0             |  |
| MATH 201                    | Mechanics-I                         | 3, 0               | MATH 515 | Computer Tools for Mathematics                | 3, 0             |  |
|                             |                                     |                    |          |   |                  |  |
|                             | Total                               | 16                 |          | Total   | 18               |  |

| ROAD MAP: BS in Mathematics |                                | TOTAL SEI | MESTERS 08 | CREDIT HOUR             | CREDIT HOURS 136 |  |
|-----------------------------|--------------------------------|-----------|------------|-------------------------|------------------|--|
| Semeste                     | r: 05                          |           | Semeste    | er: 06                  |                  |  |
| S.Code                      | Subject Name                   | Cr. Hrs.  | S.Code     | Subject Name            | Cr. Hrs.         |  |
| MATH 511                    | Real Analysis-I                | 3, 0      | MATH 521   | Real Analysis-II        | 3, 0             |  |
| MATH 512                    | Algebra-I                      | 3, 0      | MATH 522   | Algebra-II              | 3, 0             |  |
| MATH 513                    | Complex Analysis-I             | 3, 0      | MATH 531   | Functional Analysis     | 3, 0             |  |
| MATH 514                    | Topology                       | 3, 0      | MATH 536   | Complex Analysis-II     | 3, 0             |  |
| MATH 572                    | Vector and Tensor Analysis     | 3, 0      | MATH 541   | Mechanics               | 3, 0             |  |
|                             | Elective - I                   | 3, 0      |            | Elective -II            | 3, 0             |  |
|                             |                                |           |            |                         |                  |  |
|                             | Total                          | 18        |            | Total                   | 18               |  |
| Semeste                     | r: 07                          |           | er: 08     |                         |                  |  |
| S.Code                      | Subject Name                   | Cr. Hrs.  | S.Code     | Subject Name            | Cr. Hrs.         |  |
| MATH 555                    | Mathematical Physics-I         | 3, 0      | MATH 565   | Mathematical Physics-II | 3, 0             |  |
| MATH 525                    | Numerical Analysis-I           | 3, 0      | MATH 535   | Numerical Analysis-II   | 3, 0             |  |
| MATH534                     | Partial Differential Equations | 3, 0      |            | Elective V              | 3, 0             |  |
|                             | Elective –III                  | 3, 0      |            | Elective -VI            | 3, 0             |  |
|                             | Elective –IV                   | 3, 0      |            | Elective –VII           | 3, 0             |  |
|                             |                                |           |            |                         |                  |  |
|                             |                                |           |            |                         |                  |  |
|                             | Total                          | 15        |            | Total                   | 15               |  |

# **Undergraduate Program**

Bachelor of Science in Mathematics (2 Years)

# Bachelor of Science in Mathematics (Hons) (2 Years)

After 14 years of Education with the combination of Mathematics A and Mathematics B

**Program Duration: 2 Years** 

■ **Timing:** Morning (Monday-Saturday)

Location: Lahore (Main Campus)

Recognized By:

**Higher Education Commission** 

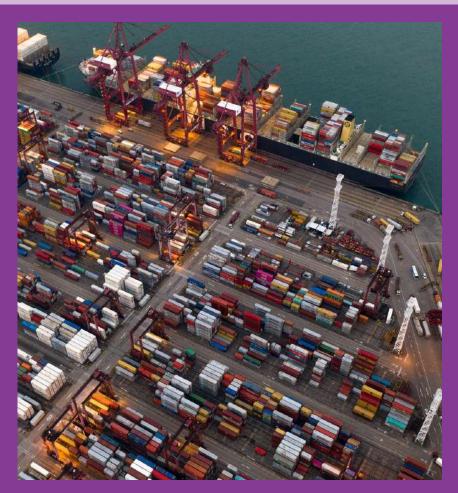
#### **Entery Requirements**

- 12 year of Education, F.A. / F.Sc. / I.C.S with Mathematics
- A-Level, DAE, (Mathematics)
- NCBA&E Test is mandatory

#### INTRODUCTION

This program is intended to equip the young scientists with the techniques of mathematics to solve the problems in the science subjects especially in mathematics and computing science. The ADP two years program not only deal with the science subjects but also give the awareness of the social sciences specially in Economics, Statistics, Computer Science and Mathematics.

The program will be of Four (04) semester's duration with 70 credit hours.



|   | ROAD MA  | AP: Mathematics(2 Years)            | TOTAL        | SEMESTE  | RS 04 CREDIT HOUR                             | RS 90    |
|---|----------|-------------------------------------|--------------|----------|---|----------|
| ı | Semester | <del>:</del> : 01                   |              | Semeste  | er: 02  |          |
|   | Sr.#     | Subject Name                        | Cr. Hrs.     | Sr.#     | Subject Name                                  | Cr. Hrs. |
|   | MATH512  | Algebra-I                           | 3, 0         | MATH524  | Ordinary Differential Equations               | 3, 0     |
|   | STAT 101 | Introduction to statistics          | 3, 0         | MATH536  | Complex Analysis-II                           | 3, 0     |
|   | MATH572  | Vector and Tensor Analysis          | 3, 0         | MATH541  | Mechanics                                     | 3,0      |
|   | MATH513  | Complex Analysis-I                  | 3, 0         | MATH521  | Real Analysis-II                              | 3, 0     |
|   | MATH511  | Real Analysis-I                     | 3, 0         | MATH 577 | Elements of Set Theory and Mathematical Logic | 3, 0     |
|   |          |                                     |              | MATH522  | Algebra-II                                    | 3, 0     |
|   |          | Total                               | 15           |          | Total   | 18       |
|   | Semester | : 03 (Ist Summer)                   | Semester: 05 |          |   |          |
|   | Sr.#     | Subject Name                        | Cr. Hrs.     | Sr.#     | Subject Name                                  | Cr. Hrs. |
|   | CS105    | Introduction to ICT                 | 3, 0         | MATH531  | Functional Analysis                           | 3, 0     |
|   | HU101    | English Composition & Comprehension | 3, 0         | MATH565  | Mathematical Physics-II                       | 3, 0     |
|   |          | Total                               | 6            | MATH535  | Numerical Analysis-II                         | 3, 0     |
|   | Semester | : 04                                |              | MATH515  | Computer Tools for Mathematics                | 3, 0     |
|   | Sr.#     | Subject Name                        | Cr. Hrs.     |          | Elective - III                                | 3, 0     |
|   | MATH514  | Topology                            | 3, 0         |          | Elective - IV                                 | 3, 0     |
|   | MATH534  | Partial Differential Equations      | 3, 0         |          | Total   | 18       |
|   | MATH555  | Mathematical Physics-I              | 3, 0         |          | ster: 06 (2nd Summer)                         |          |
|   | MATH525  | Numerical Analysis-l                | 3, 0         | Sr.#     | Subject Name                                  | Cr. Hrs. |
|   |          | Elective - I                        | 3, 0         | HU102    | Communication & Presentation Skills           | 3, 0     |
|   |          | Elective - II                       | 3, 0         | MATH521  | Number Theory                                 | 3, 0     |
|   |          | Total                               | 18           | Total    |   | 6        |

# MS/ MPhil Program

MS / MPhil in Mathematics

## MS /MPhil in Mathematics

#### **Program Duration:** 2 Years

■ Timing: Morning (Monday-Thursday)

■ Timing: Weekend (Saturday- Sunday)

Location: LahoreRecognized Bv:

Higher Education Commission (HEC) of Pakistan

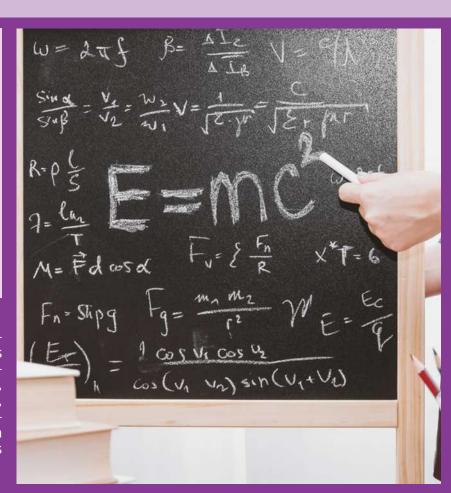
#### **Entry Requirements**

■ 16 Years of Education, BS (Hons), M.Sc / MA or equivalent in Mathematics with minimum 45% marks or 2.50 C.G.P.A

■ NCBA&E Test is mandatory

#### Introduction

The mission of department of mathematics is to provide intensive research in M.Phil. program that ultimately prepares scholars with research competence and leadership at international level. A wide range of research specially in Analysis, Applied Functional Analysis, Numerical Solution of ODE's, PDE's, Special Functions, Orthogonal Polynomials, Optimization, or Fluid Mechanics are the main targets for the research scholars to encourage them for solving the difficult problems facing the industry or in other attached departments.



| F | ROAD MAP: MPhil in Mathematics |                      | TOTAL SE     | MESTERS 0 | 4 CREDIT HOU          | CREDIT HOURS 30 |  |
|---|--------------------------------|----------------------|--------------|-----------|-----------------------|-----------------|--|
| 5 | Semester                       | : 01                 | Semester: 02 |           |                       |                 |  |
|   | C.Code                         | Subject Name         | Cr. Hrs.     | C.Code    | Subject Name          | Cr. Hrs.        |  |
|   | MATH 725                       | Research Methods     | 3, 0         | MATH 710  | Research Work Shop-II | 3, 0            |  |
|   | MATH 709                       | Research Work Shop-I | 3, 0         |           | Elective -III         | 3, 0            |  |
|   |                                | Elective – I         | 3, 0         |           | Elective –IV          | 3, 0            |  |
|   |                                | Elective – II        | 3, 0         |           | Elective -V           | 3, 0            |  |
|   |                                |                      |              |           |                       |                 |  |
|   |                                |                      |              |           |                       |                 |  |
|   |                                |                      |              |           |                       |                 |  |
|   |                                | Total                | 12           |           | Total                 | 12              |  |
| 5 | Semester                       | : 03                 |              | Semest    | er: 04                |                 |  |
|   | C.Code                         | Subject Name         | Cr. Hrs.     | C.Code    | Subject Name          | Cr. Hrs.        |  |
|   |                                | Synopsis             |              | MATH 789  | Dissertation          | 6, 0            |  |
|   |                                |                      |              |           |                       |                 |  |
|   |                                |                      |              |           |                       |                 |  |
|   |                                |                      |              |           |                       |                 |  |
|   |                                |                      |              |           |                       |                 |  |
|   |                                |                      |              |           |                       |                 |  |
|   |                                |                      |              |           |                       |                 |  |
|   |                                | Total                |              |           | Total                 | 6               |  |

### ROAD MAP: MS / MPhil in Mathematics

### **List of Elective Courses**

Elective Courses can be selected from the following list or as approved by the Department

| C.Code   | Subject Name                                 | Cr. Hrs. | C.Code   | Subject Name                                | Cr. Hrs. |
|----------|--|----------|----------|---|----------|
| MATH 701 | Real and Complex Analysis                    | 3        | MATH 724 | Advanced Fluid Mechanics                    | 3        |
| MATH 702 | Advanced Algebra-I                           | 3        | MATH 726 | Advanced Theory of Relativity               | 3        |
| MATH 703 | Computational Analysis-I                     | 3        | MATH 727 | Advanced Functional Analysis                | 3        |
| MATH 704 | Mathematical Statistics                      | 3        | MATH 728 | Game Theory in Mathematics                  | 3        |
| MATH 705 | Advanced Special Functions                   | 3        | MATH 729 | Dynamical Systems                           | 3        |
| MATH 706 | Orthogonal Polynomials                       | 3        | MATH 730 | Group Representation Theory -I              | 3        |
| MATH 707 | Advanced Ordinary Differential Equations     | 3        | MATH 736 | Theory of Group Characters-II               | 3        |
| MATH 708 | Advanced Integral Equations                  | 3        | MATH 745 | Enumerative & Asymptotic Combinatorics      | 3        |
| MATH 711 | Group Theory                                 | 3        | MATH 746 | Advanced Control Theory                     | 3        |
| MATH 712 | Advanced Algebra-II                          | 3        | MATH 747 | Advanced Measure Theory                     | 3        |
| MATH 713 | Computational Analysis-II                    | 3        | MATH 748 | Advance Topics in Mathematics               | 3        |
| MATH 714 | Field Theory                                 | 3        | MATH 751 | Fractional Integration and Its Applications | 3        |
| MATH 715 | Several Complex Variables                    | 3        | MATH 752 | Generalized Functions and Distributions     | 3        |
| MATH 716 | Advanced Set Theory and Logic                | 3        | MATH 753 | Scientific Programming                      | 3        |
| MATH 717 | Advanced Topology                            | 3        | MATH 759 | Bounded Operators on L p                    | 3        |
| MATH 718 | Theory of Group Characters-I                 | 3        | MATH 760 | Group Representation Theory -II             | 3        |
| MATH 719 | Advanced Partial Differential Equations      | 3        |          |   |          |
| MATH 720 | Numerical Methods for ODEs                   | 3        |          |   |          |
| MATH 721 | Advanced Numerical Methods                   | 3        |          |   |          |
| MATH 722 | Numerical Methods for PDEs                   | 3        |          |   |          |
| MATH 723 | Linear and Non Linear Differential Equations | 3        |          |   |          |
|          |  |          |          |   |          |

# PhD Program

Doctor of Philosophy in Mathematics

## PhD in Mathematics

**Program Duration:** 3 Years

■ **Timing:** Morning (Monday-Thursday)

Location: LahoreRecognized By:

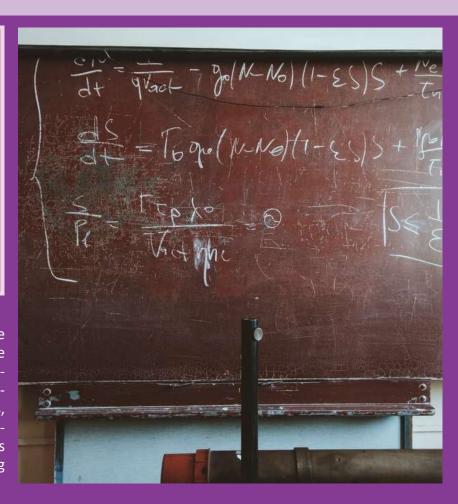
**Higher Education Commission** 

#### **Entery Requirements**

- 18 year of Education, M.Phil (Mathematics) with minimum 3.00 C.G.P.A.
- NCBA&E Test is mandatory

#### Introduction

The mission of the department of mathematics is to provide intensive research in Ph.D. program that ultimately prepare scholars with research competence and leadership at international level. A wide variety of research special action in analysis. Applied Functional Analysis, Numerical Solution of ODE's, PDE's, Special Functions, Orthogonal Polynomials, Optimization, or Fluid Mechanics etc are available. Research scholars are actively encouraged to pursue professional problem solving so that they are well-aware of industrial applications.



| ROAD MAP: PhD in Mathematics |                | TOTAL SE | MESTERS 0 | 6 CREDIT HOU  | CREDIT HOURS 30 |  |
|------------------------------|----------------|----------|-----------|---------------|-----------------|--|
| Semester                     | : 01           |          | Semeste   | er: 02        |                 |  |
| C.CODE                       | Subject Name   | Cr. Hrs. | C.CODE    | Subject Name  | Cr. Hrs.        |  |
|                              | Elective – I   | 3, 0     |           | Elective – IV | 3, 0            |  |
|                              | Elective – II  | 3, 0     |           | Elective – V  | 3, 0            |  |
|                              | Elective – III | 3, 0     |           | Elective – VI | 3, 0            |  |
|                              |                |          |           |               |                 |  |
|                              |                |          |           |               |                 |  |
|                              |                |          |           |               |                 |  |
|                              |                |          |           |               |                 |  |
|                              | Total          | 9        |           | Total         | 9               |  |
| Semester                     | : 03           |          | Semeste   | er: 04        |                 |  |
| C.CODE                       | Subject Name   | Cr. Hrs. | C.CODE    | Subject Name  | Cr. Hrs.        |  |
|                              | Comprehensive  |          |           | Synopsis      | 0               |  |
|                              |                |          |           |               |                 |  |
| Semester                     | : 05 & 06      |          |           |               |                 |  |
| C.CODE                       | Subject Name   | Cr. Hrs. | C.CODE    | Subject Name  | Cr. Hrs.        |  |
| MATH 889                     | Dissertation   | 12       |           |               |                 |  |
|                              |                |          |           |               |                 |  |
|                              |                |          |           |               |                 |  |
|                              | Total          | 12       |           |               |                 |  |

### ROAD MAP: PhD in Mathematics

### **List of Elective Courses**

Elective Courses can be selected from the following list or as approved by the Department

| C.Code   | Subject Name                                 | Cr. Hrs. | C.Code   | Subject Name                                | Cr. Hrs. |
|----------|--|----------|----------|---|----------|
| MATH 801 | Real and Complex Analysis                    | 3        | MATH 824 | Advanced Fluid Mechanics                    | 3        |
| MATH 802 | Advanced Algebra-I                           | 3        | MATH 826 | Advanced Theory of Relativity               | 3        |
| MATH 803 | Computational Analysis-I                     | 3        | MATH 827 | Advanced Functional Analysis                | 3        |
| MATH 804 | Mathematical Statistics                      | 3        | MATH 828 | Game Theory in Mathematics                  | 3        |
| MATH 805 | Advanced Special Functions                   | 3        | MATH 829 | Dynamical Systems                           | 3        |
| MATH 806 | Orthogonal Polynomials                       | 3        | MATH 830 | Group Representation Theory -I              | 3        |
| MATH 807 | Advanced Ordinary Differential Equations     | 3        | MATH 836 | Theory of Group Characters-II               | 3        |
| MATH 808 | Advanced Integral Equations                  | 3        | MATH 845 | Enumerative & Asymptotic Combinatorics      | 3        |
| MATH 811 | Group Theory                                 | 3        | MATH 846 | Advanced Control Theory                     | 3        |
| MATH 812 | Advanced Algebra-II                          | 3        | MATH 847 | Advanced Measure Theory                     | 3        |
| MATH 813 | Computational Analysis-II                    | 3        | MATH 848 | Advance Topics in Mathematics               | 3        |
| MATH 814 | Field Theory                                 | 3        | MATH 851 | Fractional Integration and Its Applications | 3        |
| MATH 815 | Several Complex Variables                    | 3        | MATH 852 | Generalized Functions and Distributions     | 3        |
| MATH 816 | Advanced Set Theory and Logic                | 3        | MATH 853 | Scientific Programming                      | 3        |
| MATH 817 | Advanced Topology                            | 3        | MATH 859 | Bounded Operators on L p                    | 3        |
| MATH 818 | Theory of Group Characters-I                 | 3        | MATH 860 | Group Representation Theory -II             | 3        |
| MATH 819 | Advanced Partial Differential Equations      | 3        |          |   |          |
| MATH 820 | Numerical Methods for ODEs                   | 3        |          |   |          |
| MATH 821 | Advanced Numerical Methods                   | 3        |          |   |          |
| MATH 822 | Numerical Methods for PDEs                   | 3        |          |   |          |
| MATH 823 | Linear and Non Linear Differential Equations | 3        |          |   |          |

# **Department of Economics**

\_01\_

Associate Degree Programs 02

Undergraduate Programs

04

M.Phil. Program 05

Ph.D. Program

# **Associate Degree Programs**



## **Associate Degree Program in Economics**

**Program Duration:** 4 Years

Timing: Morning (Monday-Friday)

■ Location: Lahore

■ Recognized By: Higher Education Commission

#### **Entry Requirements**

- 12 Years of Education or equivalent with minimum 45% marks
- NCBA&E Entery Test is mandatory

### Description

The program will be of four (04) semester duration with 66 credit hours. However, a student must take 48 compulsory credit hours in economics.



### The Combinations are as follows:

- ADP in Economics
- ADP Economics and Banking

| ROAD MAP: ADP in Economics |                              | TOTAL SEMESTERS 04 |              | CREDIT HOURS 66                               |          |
|----------------------------|------------------------------|--------------------|--------------|---|----------|
| Semester: 01               |                              | Semester - 02      |              | - 02  |          |
| C.Code                     | Subject Name                 | Cr. Hrs.           | C.Code       | Subject Name                                  | Cr. Hrs. |
| ECON                       | Basic Micro Economics        | 3                  | ECON         | Basic Macro Economics                         | 3        |
| ECON                       | Basic Mathematics            | 3                  | ECON         | Mathematical Economics                        | 3        |
| ECON                       | Basic Statistics             | 3                  | ECON 107     | English-II                                    | 3        |
| ECON 101                   | English-I                    | 3                  | ECON 108     | Pakistan Studies                              | 3        |
| ECON 103                   | Islamic Studies              | 3                  | ECON 401     | International Trade and Policy                | 3        |
| ECON 105                   | Computer Application         | 3                  |              | Elective-I                                    | 3        |
|                            |                              |                    |              |   |          |
| Semester                   | Semester: 03                 |                    | Semester: 04 |   |          |
| C.Code                     | Subject Name                 | Cr. Hrs.           | C.Code       | Subject Name                                  | Cr. Hrs. |
| ECON 202                   | Intermediate Micro Economics | 3                  | ECON 402     | Research Methodology                          | 3        |
| ECON 208                   | Intermediate Macro Economics | 3                  | ECON         | Basic Econometrics                            | 3        |
| ECON                       | Monetary Economics           | 3                  | ECON 406     | Applied Economics                             | 3        |
| ECON                       | Development Economics        | 3                  | ECON 403     | Public Finance                                | 3        |
| ECON 201                   | English-III                  | 3                  |              |   |          |
|                            | Elective-II                  | 3                  |              |   |          |
|                            |                              |                    |              |   |          |
| List of Elective Courses   |                              |                    |              |   |          |
| C.Code                     | Subject Name                 | Cr. Hrs.           | C.Code       | Subject Name                                  | Cr. Hrs. |
| ECON 644                   | Population Economics         | 3                  | ECON 634     | Applied Econometrics and Computer Application | 3        |
| ECON 607                   | Managerial Economics         | 3                  | ECON 541     | Major Issues in Pakistan's Economy            | 3        |

**Note:** Internship of minimum six weeks is necessary for the award of degree.

# **Undergraduate Programs**

BS in Economics

## **Bachelor of Science in Economics**

**Program Duration:** 4 Years

■ **Timing:** Morning (Monday-Friday)

■ Location: Lahore

■ Recognized By: Higher Education Commission

#### **Entry Requirements**

■ 12 Years of Education or equivalent with minimum 45% marks

NCBA&E Entery Test is mandatory



#### Introduction

The programme will be of eight (08) semester's duration with 130 credit hours. However, a student must take 57 compulsory credit hours in economics. There will be two entry points. First students will be admitted after F.A/F.Sc. in semester-I. Second in semester-5 the students with a B.A/B.Sc. will be enrolled with deficiency courses. Special courses will be offered for these students to make up their deficiencies. Duration of the program is 4 years.

#### The Combinations are as follows:

- BS in Economics, Banking and Finance
- BS in Economics and IT

**TOTAL CREDIT HOURS 130** 

| Semester: 01 |                               |          | Semest       | er: 02                        |          |  |
|--------------|-------------------------------|----------|--------------|-------------------------------|----------|--|
| C.Code       | Subject Name                  | Cr. Hrs. | C.Code       | Subject Name                  | Cr. Hrs. |  |
| ECON 101     | English-I                     | 3, 0     | ECON 107     | English-II                    | 3, 0     |  |
| ECON 102     | Principles of Micro Economics | 3, 0     | ECON 108     | Pakistan Studies              | 2, 0     |  |
| ECON 103     | Islamic Studies               | 2, 0     | ECON 109     | Principles of Macro Economics | 3, 0     |  |
| ECON 104     | Mathematics-I                 | 3, 0     | ECON 110     | Mathematics-II                | 3, 0     |  |
| ECON 105     | Computer Application          | 3, 0     |              | Elective (Non-economics)      | 3, 0     |  |
|              | Elective (Non-economics)      | 3, 0     |              | Elective (Non-economics)      | 3, 0     |  |
|              |                               |          |              |                               |          |  |
|              | Total                         | 17       |              | Total                         | 17       |  |
| Semester     | r: 03                         |          | Semester: 04 |                               |          |  |
| C.Code       | Subject Name                  | Cr. Hrs. | C.Code       | Subject Name                  | Cr. Hrs. |  |
| ECON 201     | English-III                   | 3, 0     | ECON 207     | English-IV                    | 3, 0     |  |
| ECON 202     | Intermediate Micro Economics  | 3, 0     | ECON 208     | Intermediate Macro Economics  | 3, 0     |  |
| ECON 203     | Development Economics         | 3, 0     | ECON 209     | Statistics-II                 | 3, 0     |  |
| ECON 204     | Statistics-I                  | 3, 0     | ECON 210     | Agriculture Economics         | 3, 0     |  |
|              | Elective (Non-economics)      | 3, 0     |              | Elective (Non-economics)      | 3, 0     |  |
|              | Elective (Non-economics)      | 3, 0     |              | Elective (Non-economics)      | 3, 0     |  |
|              |                               |          |              |                               |          |  |
|              | Total                         | 18       |              | Total                         | 18       |  |

**ROAD MAP: BS in Economics** 

| ROAD MAP: BS in Economics |                              | TOTAL SEMESTERS 08 |              | TOTAL CREDIT HOU          | TOTAL CREDIT HOURS 130 |  |
|---------------------------|------------------------------|--------------------|--------------|---------------------------|------------------------|--|
| Semester                  | Semester: 05                 |                    | Semester: 06 |                           |                        |  |
| S.Code                    | Subject Name                 | Cr. Hrs.           | S.Code       | Subject Name              | Cr. Hrs.               |  |
| ECON 301                  | Micro Economics              | 3, 0               | ECON 307     | Macro Economics           | 3, 0                   |  |
| ECON 302                  | Econometrics-I               | 3, 0               | ECON 308     | Econometrics-II           | 3, 0                   |  |
| ECON 303                  | Mathematical Economics-I     | 3, 0               | ECON 309     | Mathematical Economics-II | 3, 0                   |  |
|                           | Elective (Economics)         | 3, 0               |              | Elective (Economics)      | 3, 0                   |  |
|                           | Elective (Non-economics)     | 3, 0               |              | Elective (Economics)      | 3, 0                   |  |
|                           | Elective (Economics)         | 3, 0               |              |                           |                        |  |
|                           |                              |                    |              |                           |                        |  |
|                           | Total                        | 18                 |              | Total                     | 15                     |  |
| Semester                  | r: 07                        |                    | Semester: 08 |                           |                        |  |
| S.Code                    | Subject Name                 | Cr. Hrs.           | S.Code       | Subject Name              | Cr. Hrs.               |  |
| ECON 401                  | International Trade Theory   | 3, 0               | ECON 406     | Applied Economics         | 3, 0                   |  |
| ECON 402                  | Research Methodology         | 3, 0               | ECON 407     | Islamic Economics         | 3, 0                   |  |
| ECON 403                  | Public Finance               | 3, 0               | ECON 408     | Research Paper            | 3, 0                   |  |
| ECON 404                  | History of Economics Thought | 3, 0               |              |                           |                        |  |
|                           | Elective (Economics)         | 3, 0               |              |                           |                        |  |
|                           |                              |                    |              |                           |                        |  |
|                           |                              |                    |              |                           |                        |  |
|                           | Total                        | 15                 |              | Total                     | 9                      |  |

# MS/MPhil Program

MS / MPhil in Economics

# **Master of Philosophy in Economics**

**Program Duration:** 2 Years

■ **Timing:** Morning (Monday-Friday)

■ Location: Lahore

■ Recognized By: Higher Education Commission

#### **Entry Requirements**

- 16 Years of Education or equivalent with minimum 2.5 CGPA
- NCBA&E Entry Test is mandatory

#### Introduction

M.Phil is a 2 years degree program. During the first two semesters, the students will complete 24 credit hours out of the courses mentioned below. During the 3rd and 4th semesters, students will conduct research on a topic of their choice in consultation with their research supervisor.



### **Research Areas:**

- Development Economics
- Microeconomics
- Macroeconomics
- Population and Manpower Economics
- Major Issues of Pakistan's Economy

**CREDIT HOURS 30** 

| Semester: 01 |  |          | Semest   | er: 02                              |          |
|--------------|--|----------|----------|-------------------------------------|----------|
| C.Code       | Subject Name   | Cr. Hrs. | C.Code   | Subject Name                        | Cr. Hrs. |
| ECON 701     | Advanced Micro Economic Theory                             | 3, 0     | ECON 704 | Advanced Econometrics & Forecasting | 3, 0     |
| ECON 711     | Advanced Macro Economic Theory                             | 3, 0     | ECON 723 | Issues in Pakistan's Economy        | 3, 0     |
| RGEN 725     | Research Methods   | 3, 0     | RGEN 710 | Research Workshop-II                | 3, 0     |
| RGEN 709     | Research Workshop-I  | 3, 0     |          | Elective Course                     | 3, 0     |
|              | Total  | 12       |          | Total                               | 12       |
| Semester     | : 03 & 04  |          |          |                                     |          |
| C.Code       | Subject Name   | Cr. Hrs. |          |                                     |          |
| ECON 789     | Synopsis and Dissertation                                  | 6, 0     |          |                                     |          |
|              | Total  | 6        |          |                                     |          |
| List of Ele  | ective Courses   |          |          |                                     |          |
| C.Code       | Subject Name   | Cr. Hrs. |          |                                     |          |
| ECON 714     | Islamic Economics & Finance                                | 3, 0     |          |                                     |          |
| ECON 716     | Advanced Monetary Economics                                | 3, 0     |          |                                     |          |
| RGEN 731     | Advanced Development Economics                             | 3, 0     |          |                                     |          |
| RGEN 746     | Advanced Economics of Environment and<br>Natural Resources | 3, 0     |          |                                     |          |
| RGEN 736     | Advanced Economics of Population and<br>Manpower           | 3, 0     |          |                                     |          |
| RGEN 721     | Advanced International Economics                           | 3, 0     |          |                                     |          |
|              |  |          |          |                                     |          |

**ROAD MAP: MPhil in Economics** 

# PhD Program



# **Doctor of Philosophy in Economics**

**Program Duration:** 3 Years

■ **Timing:** Morning (Monday-Friday)

■ Location: Lahore

Recognized By: Higher Education Commission

### **Entry Requirements**

- As laid down by the Higher Education Commission of Pakistan
- NCBA&E Entry Test is mandatory

#### Introduction

Ph.D. is a 3 years program. The students will complete 18 credit hours out of the courses mentioned below conduct research on a topic of their choice in consultation with their research supervisor and submit their dissertation of 12 credit hours.



#### **Research Areas:**

- Development Economics
- Microeconomics
- Macroeconomics
- Population and Manpower Economics
- Major Issues of Pakistan's Economy

| ROAD MA  | ROAD MAP: PhD in Economics      |          | MESTERS 0    | 6 CREDIT HOU                                     | CREDIT HOURS 30 |  |
|----------|---------------------------------|----------|--------------|--|-----------------|--|
| Semester | : 01                            |          | Semester: 02 |  |                 |  |
| C.Code   | Subject Name                    | Cr. Hrs. | C.Code       | Subject Name                                     | Cr. Hrs.        |  |
| ECON 801 | Topics in Micro Economic Theory | 3, 0     | ECON 805     | Topics in Econometrics & Forecasting             | 3, 0            |  |
| ECON 811 | Topics in Macro Economic Theory | 3, 0     |              | Elective – II                                    | 3, 0            |  |
|          | Elective - I                    | 3, 0     |              | Elective – III                                   | 3, 0            |  |
|          | Total                           | 9        |              | Total  | 9               |  |
| Semester | : 03 - 06                       |          | List of E    | lective Courses                                  |                 |  |
| C.Code   | Subject Name                    | Cr. Hrs. | C.Code       | Subject Name                                     | Cr. Hrs.        |  |
| ECON 890 | Synopsis and Dissertation       | 12, 0    | ECON 806     | Topics in Financial Modeling                     | 3, 0            |  |
|          | Total                           | 12       | ECON 807     | Topics in Economics of Business Finance          | 3, 0            |  |
|          |                                 |          | ECON 817     | Topics in Advance Monetary Economics             | 3, 0            |  |
|          |                                 |          | ECON 815     | Topics in Islamic Economics & Finance            | 3, 0            |  |
|          |                                 |          | ECON 822     | Topics in International Economics                | 3, 0            |  |
|          |                                 |          | ECON 824     | Contemporary Issues in Pakistan's Economy        | 3, 0            |  |
|          |                                 |          | ECON 832     | Topics in Development Economics                  | 3, 0            |  |
|          |                                 |          | ECON 837     | Topics in Dynamics of Population and<br>Manpower | 3, 0            |  |
|          |                                 |          | ECON 838     | Political Economy of Development                 | 3, 0            |  |
|          |                                 |          | ECON 849     | Growth Economics                                 | 3, 0            |  |
|          |                                 |          | ECON 851     | Topics in Econometrics & Forecasting             | 3, 0            |  |
|          |                                 |          |              |  |                 |  |

# **Department of Statistics**

ADP Programs

Undergraduate Programs

M.Phil. Programs

Ph.D. Programs

# **Associate Degree Program**



## **ADP in Statistics**

**Program Duration: 2 Years** 

■ **Timing:** Morning (Monday-Satureday)

Location: Lahore (Main Campus)

■ Recognized By:

**Higher Education Commission** 

#### **Entery Requirements**

- 12 year of Education with Mathematics and minimum 45% marks
- NCBA&E Test is mandatory



#### INTRODUCTION

This Program is intended to train the young students with the techniques of statistics to solve problems in science subjects required mathematics and computations. The allied subjects offered are (Economics and Mathematics) or (Mathematics and Computer Science), these should help the students to get job in different organizations.

## The Combinations are as follows:

- Statistics with Computer Science
- Statistics with Economics
- Statistics with Mathematics

| ROAD MAP: Statistics |   | TOTAL SEMESTERS 04 |         | RS 04 CREDIT HOUR                    | CREDIT HOURS 66 |  |
|----------------------|---|--------------------|---------|--------------------------------------|-----------------|--|
| Semester             | r: 01   | Semester: 02       |         |                                      |                 |  |
| Sr.#                 | Subject Name  | Cr. Hrs.           | Sr.#    | Subject Name                         | Cr. Hrs.        |  |
| 01                   | Calculus-I  | 4, 0               | 07      | Calculus-II                          | 4, 0            |  |
| 02                   | English-I (Functional English)                          | 3, 0               | 08      | English-II (Communication Skills)    | 3, 0            |  |
| 03                   | Islamic Studied/Ethics                                  | 3, 0               | 09      | Pakistan Studies                     | 20              |  |
| 04                   | Introduction to computers                               | 2, 0               | 10      | Introduction to Probability          | 3,0             |  |
| 05                   | Principles of Micro Economics                           | 3, 0               | 11      | Introduction to Regression Analysis  | 3, 0            |  |
| 06                   | Introduction Statistics                                 | 3, 0               | 12      | Principles of Macro Economics        | 2,1             |  |
|                      |   |                    |         |                                      |                 |  |
|                      | Total   | 18                 |         | Total                                | 18              |  |
| Semester             | r: 03   |                    | Semeste | er: 04                               |                 |  |
| Sr.#                 | Subject Name  | Cr. Hrs.           | Sr.#    | Subject Name                         | Cr. Hrs.        |  |
| 13                   | English III (Technical Writing and Presentation Skills) | 3, 0               | 18      | Any Foreign Language                 | 3, 0            |  |
| 14                   | Ordinary Differential Equations                         | 3, 0               | 19      | Linear Algebra                       | 3, 0            |  |
| 15                   | Sampling Techniques                                     | 3, 0               | 20      | Introduction to Statistical Packages | 3, 0            |  |
| 16                   | Probability & Probability Distributions                 | 3, 0               | 21      | ANOVA & Experimental Design          | 3, 0            |  |
| 17                   | Intermediate Micro Economics                            | 3, 0               | 22      | Intermediate Macro Economics         | 3, 0            |  |
|                      |   |                    |         |                                      |                 |  |
|                      |   |                    |         |                                      |                 |  |
|                      | Total   | 15                 |         | Total                                | 15              |  |

# **Undergraduate Program**

Bachelor of Science in Statistics Bachelor of Science in Actuarial Science

## **Bachelor of Science in Statistics**

**Program Duration:** 4 Years

■ **Timing:** Morning (Monday-Friday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

■ 12 Years of Educationor equivalent with minimum 45% marks

NCBA&E Entry Test is mandatory

#### Introduction

The program is spread over eight (8) semesters with 130 credit hours. It comprises of courses from statistics and courses from other related disciplines such as mathematics and economics. The entry is after intermediate with mathematics or other equivalent examinations with at least 45 percent marks.



#### The Combinations are as follows:

- Statistics with Combination of Economics & Mathematics
- Statistics with Combination of Computer Science & Mathematics

| ROAD MA  | P: BS in Statistics                      | TOTAL SEI | MESTERS 08   | CREDIT HOU   | RS 130   |
|----------|--|-----------|--------------|--|----------|
| Semester | r: 01                                    |           | Semester: 02 |  |          |
| C.Code   | Subject Name                             | Cr. Hrs.  | C.Code       | Subject Name   | Cr. Hrs. |
| ISE 111  | Islamiat/Ethics                          | 2         | PST 111      | Pakistan Studies                                       | 2        |
| ENG 111  | English-I (Language in Use)              | 3         | ENG 112      | English-II (Academic Reading and Writing)              | 3        |
| COMP 111 | Computer (Introduction and Applications) | 3         | MATH 103     | Mathematics A-II [Plane Curves &<br>Analytic Geometry] |          |
| MATH 101 | Mathematics A-I [Calculus (I)]           | 4         | ECON 123     | Basic Economics-II                                     | 3        |
| ECON 121 | Basic Economics-I                        | 3         | ECON 124     | Basic Economics Lab-II                                 |          |
| ECON 122 | Basic Economics Lab-l                    | 1         | STAT 103     | Statistics-II  | 3        |
| STAT 101 | Statistics-I                             | 3         | STAT 104     | Statistics Lab-II                                      |          |
| STAT 102 | Statistics Lab-I                         | 1         |              |  |          |
|          | Total                                    | 20        |              | Total  | 17       |
| Semester | r: 03                                    |           | Semeste      | er: 04   |          |
| C.Code   | Subject Name                             | Cr. Hrs.  | C.Code       | Subject Name   | Cr. Hrs. |
| ENG 211  | English-III (Communication Skills)       | 3         | ENG 212      | English-IV (English for Practical Aims)                | 3        |
| MATH 201 | Mathematics A-III [Linear Algebra]       | 4         | MATH 203     | Mathematics A-IV [Ordinary Differential Equations]     | 4        |
| ECON 221 | Basic Economics-III                      | 3         | ECON 223     | Basic Economics-IV                                     | 3        |
| ECON 222 | Basic Economics Lab-III                  | 1         | ECON 224     | Basic Economics Lab-IV                                 | 1        |
| STAT 201 | Statistics-III                           | 3         | STAT 203     | Statistics-IV  | 3        |
| STAT 202 | Statistics Lab-III                       | 1         | STAT 204     | Statistics Lab-IV                                      | 1        |
|          |  |           | SOC 211      | Introduction to Sociology                              | 3        |
|          | Total                                    | 15        |              | Total  | 18       |

| ROAD MAP: BS in Statistics |   | TOTAL SEMESTERS 08 |          | CREDIT HOUF                           | CREDIT HOURS 130 |  |
|----------------------------|---|--------------------|----------|---------------------------------------|------------------|--|
| Semester                   | r: 05                                       |                    | Semest   | er: 06                                |                  |  |
| C.Code                     | Subject Name                                | Cr. Hrs.           | C.Code   | Subject Name                          | Cr. Hrs.         |  |
| STAT-301                   | Parametric and Nonparametric Tests (Theory) | 3                  | STAT 310 | Advanced Experimental Design (Theory) | 3                |  |
| STAT-302                   | Parametric and Nonparametric Tests (Lab)    | 1                  | STAT 311 | Advanced Experimental Design (Lab)    | 1                |  |
| STAT-303                   | Design and Analysis of Experiments (Theory) | 3                  | STAT 312 | Advanced Sampling Techniques (Theory) | 3                |  |
| STAT-304                   | Design and Analysis of Experiments (Lab)    | 1                  | STAT 313 | Advanced Sampling Techniques (Lab)    | 1                |  |
| STAT-305                   | Sampling Techniques (Theory)                | 3                  | STAT 314 | Multivariate Techniques (Theory)      | 3                |  |
| STAT-306                   | Sampling Techniques (Lab)                   | 1                  | STAT 315 | Multivariate Techniques (Lab)         | 1                |  |
| STAT-307                   | Probability Theory (Theory)                 | 3                  | STAT 316 | Probability Distributions (Theory)    | 3                |  |
| STAT-308                   | Probability Theory (Lab)                    | 1                  | STAT 317 | Probability Distributions (Lab)       | 1                |  |
| STAT-309                   | Statistical Computer Packages               | 2                  | STAT 318 | Population Studies                    | 2                |  |
|                            | Total                                       | 18                 |          | Total                                 | 18               |  |
| Semester                   | r: 07                                       |                    | Semeste  | er: 08                                |                  |  |
| C.Code                     | Subject Name                                | Cr. Hrs.           | C.Code   | Subject Name                          | Cr. Hrs.         |  |
| STAT 401                   | Statistical Inference-I (Theory)            | 3                  | STAT 407 | Statistical Inference-II (Theory)     | 3                |  |
| STAT 402                   | Statistical Inference-I (Lab)               | 1                  | STAT 408 | Statistical Inference-II (Lab)        | 1                |  |
| STAT 403                   | Basic Econometrics (Theory)                 | 3                  | STAT 409 | Applied Econometrics (Theory)         | 3                |  |
| STAT 404                   | Basic Econometrics (Lab)                    | 1                  | STAT 410 | Applied Econometrics (Lab)            | 1                |  |
| STAT 405                   | C++ Computer Programming Language           | 3                  | STAT 413 | Time Series Analysis-II               | 3                |  |
| STAT 406                   | Research Methodology                        | 2                  | STAT 414 | Multivariate Analysis                 | 3                |  |
| STAT 411                   | Time Series Analysis-I                      | 3                  | STAT 415 | Total Quality Management              | 3                |  |
| STAT 412                   | Operation Research                          | 3                  |          |                                       |                  |  |
|                            | Total                                       | 19                 |          | Total                                 | 17               |  |

## **Bachelor of Science in Actuarial Science**

**Program Duration:** 4 Years

■ **Timing:** Morning (Monday-Friday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

■ 12 Years of Education or equivalent with minimum 45% marks

NCBA&E Entry Test is mandatory

### Introduction

This Program is intended for students who are interested to adopt career in insurance business field or banking industry. They may also like to have career in finance.



| ROAD MA  | AP: BS in Actuarial Science                  | TOTAL SEN | MESTERS 08   | CREDIT HOUR  | S 130    |  |
|----------|--|-----------|--------------|--|----------|--|
| Semeste  | Semester: 01                                 |           | Semester: 02 |  |          |  |
| C.Code   | Subject Name                                 | Cr. Hrs.  | C.Code       | Subject Name   | Cr. Hrs. |  |
| ISE 111  | Islamiat/Ethics                              | 2         | PST 111      | Pakistan Studies   | 2        |  |
| ENG 111  | English-I (Language in Use)                  | 3         | ENG 112      | English-II (Academic Reading and Writing)                    | 3        |  |
| STAT 101 | Statistics-I (Introduction)                  | 3         | STAT 103     | Statistics-II (Probability and<br>Probability Distributions) | 3        |  |
| MATH 101 | Mathematics – I (Calculus)                   | 3         | ECON 123     | Mathematics – II (Linear Algebra)                            | 3        |  |
| COMP 101 | Computer – I (Introduction)                  | 3         | COMP 103     | Computer – II (Database<br>Development and Design)           | 3        |  |
| ECON 121 | Principles of Economics (Micro)              | 3         | ECON 123     | Principles of Economics (Macro)                              | 3        |  |
|          |  |           |              |  |          |  |
|          |  |           |              |  |          |  |
|          | Total  | 17        |              | Total  | 17       |  |
| Semeste  | r: 03  |           | Semester: 04 |  |          |  |
| C.Code   | Subject Name                                 | Cr. Hrs.  | C.Code       | Subject Name   | Cr. Hrs. |  |
| ENG 211  | English-III (Communication Skills)           | 3         | ENG 212      | English-IV (English for Practical Aims)                      | 3        |  |
| STAT 201 | Statistics-III (Statistical Decision Theory) | 3         | STAT 203     | Statistics-IV (Statistics and Actuarial Computing)           | 3        |  |
| MATH 201 | Mathematics – III (Differential Equations)   | 3         | MATH 203     | Mathematics – IV (Numerical Analysis)                        | 3        |  |
| ACT 202  | Introduction to Actuarial Science            | 3         | ACT 203      | Financial Mathematics  | 3        |  |
| STAT 202 | Introduction to Demography                   | 2         | ECON 221     | International Economics                                      | 3        |  |
| ACT 204  | Introduction to Finance                      | 3         | LANG 201     | Chinese/German/French Language                               | 2        |  |
|          |  |           |              |  |          |  |
|          | Total  | 17        |              | Total  | 17       |  |

| ROAD MAP: BS in Actuarial Science |  | TOTAL SEMESTERS 08 |              | CREDIT HOUR   | CREDIT HOURS 130 |  |
|-----------------------------------|--|--------------------|--------------|---|------------------|--|
| Semester: 05                      |  |                    | Semester: 06 |   |                  |  |
| C.Code                            | Subject Name   | Cr. Hrs.           | C.Code       | Subject Name  | Cr. Hrs.         |  |
| ACT 301                           | Introduction to Life Insurance                       | 3                  | ACT 308      | Survival Models   | 3                |  |
| ACT 305                           | Advance Financial Math                               | 3                  | ACT 309      | Life Contingencies and Life Tables                      | 3                |  |
| ACT 306                           | Advance Corporate Finance                            | 3                  | ACT 310      | Takaful and Actuarial Practice                          | 3                |  |
| ACT 307                           | Islamic Modes of Finance                             | 3                  | ACT 311      | Risk Management (Financial Economics-I)                 | 3                |  |
| STAT 333                          | Stochastic Models                                    | 3                  | ACT 312      | Investment and Portfolio Management                     | 3                |  |
| STAT 312                          | Financial Reporting                                  | 3                  | STAT 4706    | Research Methodology                                    | 3                |  |
|                                   |  |                    |              |   |                  |  |
|                                   |  |                    |              |   |                  |  |
|                                   |  |                    |              |   |                  |  |
|                                   | Total  | 18                 |              | Total   | 18               |  |
| Semester                          | r: 07  |                    | Semeste      | er: 08  |                  |  |
| C.Code                            | Subject Name   | Cr. Hrs.           | C.Code       | Subject Name  | Cr. Hrs.         |  |
| ACT 413                           | Mortality Data Analysis                              | 3                  | ACT 417      | Financial Risk Management                               | 3                |  |
| ACT 414                           | Advance Risk Management<br>(Financial Economics -II) | 3                  | STAT 4713    | Specialization-IV<br>(Internship/Project/Thesis/Course) | 3                |  |
| ACT 416                           | Insurance and Pension Law                            | 3                  | ACT 415      | Employee Benefit Management                             | 3                |  |
| ACT 4044                          | Equity and Derivative Market                         | 3                  |              | Specialization-IV<br>(Internship/Project/Thesis/Course) | 3                |  |
|                                   | Specialization-l                                     | 3                  |              | Specialization-IV                                       | 3                |  |
|                                   | Specialization-II                                    | 3                  |              | Specialization-V  | 3                |  |
|                                   |  |                    |              |   |                  |  |
|                                   |  |                    |              |   |                  |  |
|                                   | Total  | 18                 |              | Total   | 18               |  |

# MS/MPhil Program

MS / MPhil in Statistics

# **MS/MPhil in Statistics**

**Program Duration:** 2 Years

■ Timing: 1:00 PM To onward (Monday-Friday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- 16 Years of Education with Statistics or equivalent with minimum 2.t CGPA
- NCBA&E Entry Test is mandatory.

#### Introduction

The department of statistics started during 2002 under the supervision of late Prof. Dr. Munir Ahmad. The main objective of the program is to prepare the students for deep understanding of various statistical techniques applied in different fields. Courses on advanced sampling survey, mathematical statistics, statistical inference, categorical data analysis, linear models, advanced statistical computing and population studies etc. are offered. So far more than 70 M.Phil students have graduated.



### **Research Areas:**

- Distribution Theory
- Survey Sampling
- Applied Statistics
- Quality Control

- Biostatistics
- Environ Statistics
- Climatology

| ROAD MAP: MPhil in Statistics |                      | TOTAL SE | MESTERS 0    | 4 CREDIT HO          | CREDIT HOURS 30 |  |
|-------------------------------|----------------------|----------|--------------|----------------------|-----------------|--|
| Semester                      | Semester: 01         |          | Semester: 02 |                      |                 |  |
| C.Code                        | Subject Name         | Cr. Hrs. | C.Code       | Subject Name         | Cr. Hrs.        |  |
| STAT 709                      | Research Work Shop-I | 3        | STAT 710     | Research Workshop-II | 3               |  |
| STAT 725                      | Research Methods     | 3        |              | Elective II          | 3               |  |
|                               | Elective I           | 3        |              | Elective III         | 3               |  |
|                               |                      |          |              |                      |                 |  |
|                               |                      |          |              |                      |                 |  |
|                               |                      |          |              |                      |                 |  |
|                               |                      |          |              |                      |                 |  |
|                               | Total                | 9        |              | Total                | 9               |  |
| Semester                      | r: 03                |          | Semest       | er: 04               |                 |  |
| C.Code                        | Subject Name         | Cr. Hrs. | C.Code       | Subject Name         | Cr. Hrs.        |  |
|                               | Elective IV          | 3        |              |                      |                 |  |
|                               |                      |          |              | Dissertation         | 6, 0            |  |
|                               | Elective V           | 3        | _            | Dissertation         | 6, 0            |  |
|                               |                      |          |              | Dissertation         | 6, 0            |  |
|                               |                      |          |              | Dissertation         | 6, 0            |  |
|                               |                      |          |              | Dissertation         | 6, 0            |  |
|                               |                      |          |              | Dissertation         | 6, 0            |  |
|                               |                      |          |              | Dissertation         | 6, 0            |  |

# PhD Program

PhD in Statistics

## **PhD in Statistics**

**Program Duration:** 3 Years

■ **Timing:** 1:00 PM To onward (Monday-Friday)

Location: LahoreRecognized By:

Higher Education Commission (HEC) of Pakistan

#### **Entry Requirements**

- As laid down by the Higher Education Commission of Pakistan
- NCBA&E/GAT/ETC Entry Test is mandatory

#### Introduction

The department offers intensive research Ph.D. program. This program prepares the students for research competence and leadership at the international level. The department has produced more than 55 Ph.D.'s and all of them are placed in good job positions inside and outside of Pakistan. We look forward for a good future for every forthcoming graduate.



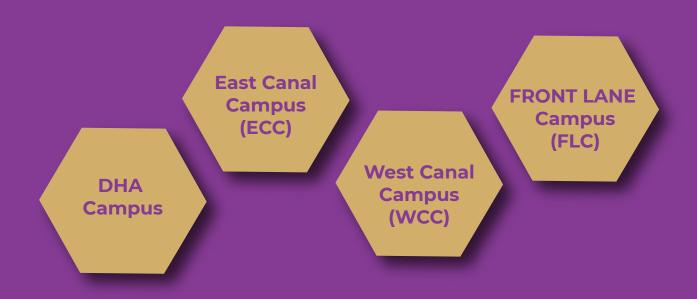
#### **Research Areas:**

- Distribution Theory
- Survey Sampling
- Applied Statistics
- Quality Control

- Biostatistics
- Environ Statistics
- Climatology

| ROAD MAP: PhD in Statistics |                                | TOTAL SE  | MESTERS 0                                       | 6 CREDIT HOU   | RS 30                       |
|-----------------------------|--------------------------------|---|---|--|-----------------------------|
| Semester                    | : 01                           | Semester: 02  |   | er: 02   |                             |
| C.CODE                      | Subject Name                   | Cr. Hrs.  | C.CODE  | Subject Name   | Cr. Hrs.                    |
|                             | Elective – I                   | 3   |   | Elective IV  | 3                           |
|                             | Elective – II                  | 3   |   | Elective V   | 3                           |
|                             | Elective – III                 | 3   |   | Elective VI  | 3                           |
|                             |                                |   |   |  |                             |
|                             |                                |   |   |  |                             |
|                             |                                |   |   |  |                             |
|                             |                                |   |   |  |                             |
|                             | Total                          | 9   |   | Total  | 9                           |
| Semester                    | : 03 - 06                      |   |   |  |                             |
| C.CODE                      | Subject Name                   | Cr. Hrs.  | C.CODE  | Subject Name   | Cr. Hrs.                    |
|                             | Synopsis                       | 0   | STAT 899  | Research Thesis  | 12                          |
|                             |                                |   |   |  |                             |
|                             |                                |   |   |  |                             |
|                             |                                |   |   |  |                             |
|                             |                                |   |   |  |                             |
|                             |                                |   |   |  |                             |
|                             |                                |   |   |  |                             |
|                             | Total                          | 0   |   |  | 12                          |
|                             | Semester<br>C.CODE<br>Semester | Semester: 01  C.CODE Subject Name  Elective - II  Elective - III  Total  Semester: 03 - 06  C.CODE Subject Name  Synopsis | C.CODE   Subject Name   Cr. Hrs.     Elective - | C.CODE   Subject Name   Cr. Hrs.   C.CODE     Elective - I | Semester: 01   Semester: 02 |

# **Satellite Campuses**



## **DHA Campus**



## **Address:**

DHA Phase 8 Off Ring Road. Near Paragon Housing Society, Opposite PSO Petrol Pump. Barki Road Lahore.

Tel: +92-42-37175806-7

Email ID: do.dha@ncbae.edu.pk

# **East Canal Campus**



## **Address:**

Mian Aziz Garden, Khaira Pull, Jallo Morr, Lahore.

Tel: +92-42-36525804-7

Email ID: info.ecc@ncbae.edu.pk

## **West Canal Campus**



### **Address:**

178-A Abu Bakar Block, Garden Town Lahore

Tel: +92-42-35913461-2

Email ID: nfo.wcc@ncbae.edu.pk

# **Front Lane Campus**



## Address:

163 Shadman II, Canal Road, Lahore

Tel: +92-42-35970636-37

Email ID: info.flc@ncbae.edu.pk

# **Sub-Campuses**



## 01 Multan CAMPUS

#### **PROGRAMS OFFERED**

- BBA (Hons.)
- BS (Hons.) Economic
- BS(Hons.) Mathematics
- BS (Hons.) Computer Science
- MBA (Exec)
- M.Phil (Business)
- M.Phil (Computer Science)
- M.Phil (Economics)
- M.Phil (Mathematics)
- M.Phil (Statistics)



### Address:

11 / B, Gulgasht Colony, Bosan Road, Multan.

Tel: +92(61)6524126

Email: info.multan@ncbae.edu.pk

## 02 Bahawalpur Campus

#### **PROGRAMS OFFERED**

- B.Com (Hons)
- BBA (Hons)
- BSCS (Hons.)
- MBA
- MBA (Exe)
- M.Phil (Business)
- M.Phil (Computer Science)
- M.Phil (Economics)
- M.Phil (Mathematics)



### Address:

30-31 Model Town-A, Sarwar Shaheed Road, Bahawalpur.

Tel: +92(62)2732071-2

Email: info.bwp@ncbae.edu.pk

## 03 Rahim Yar Khan Campus

## **PROGRAMS OFFERED**

- BBA (Hons)
- BS Math
- BSCS (Hons.)



## Address:

21-A Businessmen Colony Rahim Yar Khan.

Tel: +92(68)-5881414-5881818

Email: info.ryk@ncbae.edu.pk

## Career Development & Alumni Resource Center (CDAR)

#### INTRODUCTION

Career Development & Alumni Resource Center (CDAR) prepares students to launch satisfying careers through individualized, quality programs and services. Its mission is to provide career counseling for decision-making and job search services to enhance student success. This department addresses the needs of a wide range of students including those who are seeking employment and those who desire to switch from their current jobs.

It also enables students and aspiring professionals from the institute to embark on challenging training opportunities at leading companies. Every year numerous training positions open doors to an exchange of expertise, professional connections, and ideas that are beneficial to everyone involved. These opportunities are availed by the pass outs under the support and guidance of CDAR representatives.

CDAR is not only helping the pass out students in appointments on jobs but also providing internship and short term experience opportunities to the students with degrees in progress.

Career counseling and guidelines for student body are available through the department. Alumni records are also maintained by CDAR for general and occasional correspondence with the alumni.

CDAR also facilitates placements and internships of the graduates of Masters and Bachelors programs. Moreover, it offers counseling and placement services and undertakes a wide range of activities that include company presentations, on-campus job fairs, workshops on resume writing and interviewing skills, and job search strategies among others.

The objective is to help the students and companies in evaluating options and making the right choice to match their respective needs.



## Career Development & Alumni Resource Center (CDAR)

#### **MISSION**

- To assist our students in career development.
- To help provide job opportunities by bringing in the companies for on-campus recruitment of eligible students.
- Providing advice, counseling and facilitating career development opportunities through employment or further education.
- Job related skills are always given highest priority at the NCBA&E Placement and Alumni Office organizes various activities in this regards to make students ready and well prepared for the job market.
- To ensure that NCBA&E graduates are employees of choice for employers in their own country and abroad.





### **Collaboration with Industry**





































## **Recruiting Partners of NCBA&E**

| 1.  | Abacus Consulting                            | 19. | Faysal Bank                  |
|-----|--|-----|------------------------------|
| 2.  | Allied Bank Limited (ABL)                    | 20. | Food panda                   |
| 3.  | Al-Baraka Bank                               | 21. | Gourmet foods                |
| 4.  | Askari Bank                                  | 22. | Habib Bank Limited (HBL)     |
| 5.  | Brain telecom                                | 23. | Habib Metropolitan Bank      |
| 6.  | Bank Alfalah                                 | 24. | Haleeb Foods                 |
| 7.  | Bata Pakistan                                | 25. | Hashoo Group                 |
| 8.  | Berger Paints                                | 26. | Jazz                         |
| 9.  | British Council Pakistan                     | 27. | KASHF Foundation             |
| 10. | Buksh Group                                  | 28. | Metro Cash & Carry           |
| 11. | Burj Bank                                    | 29. | Meezan Bank                  |
| 12. | Care Foundation                              | 30. | Maria B                      |
| 13. | Careem                                       | 31. | Muslim Commercial Bank (MCB) |
| 14. | Coca Cola Beverages Pakistan Limited (CCBPL) | 32. | Nestle                       |
| 15. | Descon                                       | 33. | Netsol Technologies          |
| 16. | Dawood Hercules (DH Corp.)                   | 34. | Nippon Paints                |
| 17. | Dubai Islamic Bank                           | 35. | Nishat Group                 |
| 18. | Fauji Fertilizer Company (FFC)               | 36. | Orient Group of Companies    |
|     |  |     |                              |

### **Recruiting Partners of NCBA&E**

| 37. | Packages   |
|-----|--|
| 38. | Pak Elektron Limited (PEL)                           |
| 39. | Pakistan State Oil (PSO)                             |
| 40. | Pakistan Telecommunication Company<br>Limited (PTCL) |
| 41. | Roshan Packages                                      |
| 42. | Sapphire Group                                       |
| 43. | Service Industries Limited (SIL)                     |
| 44. | Sharif Group   |
| 45. | Shell Pakistan                                       |
| 46. | Style Textiles                                       |
| 47. | Stylo Shoes  |
| 48. | Systems Limited                                      |
| 49. | Tameer Micro¬nance Bank                              |
| 50. | Techlogix  |
| 51. | Telenor  |
| 52. | Tetra Pak  |
| 53. | Tkxel  |
|     |  |

- 54. UBER
- 55. United Bank Limited (UBL)
- 56. Ufone
- 57. United snacks
- 58. US Apparel
- 59. US Denim Mills Private Limited
- 60. Zong China Mobile Pakistan

#### **ANNUAL JOB FAIR**

NCBA&E hosts its signature event, the Annual Job Fair. This event connects NCBA&E students with prospective employers and introduces them to a myriad of job and internship opportunities offered by various public and private sector organizations. The Job Fair, this year 2020, NCBA&E welcomed 23 National and International reputed organizations, representing multiple and diverse industries. Extensive on-spot screening interviews, exchange of resumes, and engagement with the students took place.









### **QUALITY ASSURANCE & ENHANCEMENT CENTRE (QAEC)**

### **OBJECTIVES OF QAEC**

Quality in higher education is a dynamic entity which is the outcome of interaction among many factors including inter-alia, leadership, quality of faculty and students, infrastructure facilities, research and learning environment, governance, strategic planning, assessment procedures, and market force.

#### **FUNCTIONS OF THE QAEC**

- 1. The NCBAE Quality Assurance and Enhancement Centre (QAEC) is to be headed by a Director reporting directly to Rector. He is to be the correspondent with the outside bodies.
- 2. For promoting public confidence that the quality and standards of the award of degrees are enhanced and safeguarded.
- 3. For the review of quality standards and the quality of teaching and learning in each subject area.
- 4. For the review of academic affiliations with other institutions in terms of effective management of standards and quality of programs.
- 5. For defining clear and explicit standards as points of reference to the reviews to be carried out. It should also help the employees to know as to what they could expect from candidates.
- 6. 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., Doctoral.

#### **FUNCTIONS OF THE QAEC**

- 7. 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.
- 8. To develop quality assurance processes and methods of evaluation to affirm that the quality of provision and the standard of awards are being maintained and to foster curriculum, subject and staff development, together with research and other scholarly activities.
- 9. To ensure that the university's quality assurance procedures are designed to fit in with the arrangements in place nationally for maintaining and improving the quality of Higher Education.
- 10. QAEC is responsible to develop procedures for the following:
  - a). Approval of new programs
  - b). Annual monitoring and evaluation including program monitoring, faculty monitoring, and students perception.
  - c). Departmental review
  - d). Student feedback
  - e). Quality assurance of Master's, M.Phil and Ph.D. degree Programs
  - f). Institutional assessment
  - g). Program specifications
  - h). Qualification framework

## Syeda Rozy Rizvi

### **Director of Student Experience Office**

### Mission

Promote student success, personal and professional development through collaborative, holistic, inclusive experiences and environments.

### Vision

The vision of Student Experience Office is to create an individualized student-focused path for success through active engagement with students

### Message

The Student Experience Office (SEO) in the Division of Student Affairs at National College of Business Administration and Economics offers programs and services to familiarize students to university life. It also supports their successful transitions through university & encourages leadership development. It helps student engagement & co-curricular involvement while at NCBA&E. Our programs and services prepare students to achieve not only their personal, social, and academic goals but also their professional and community aspirations.



### Student Experience Office ~ Kashmir Day 2021







t NCBA&E we celebrated Kashmir Solidarity Day on 9th February 2021. We warmly welcomed our Chief Guest General Retired Ghulam Mustafa & Guest of Honor Ayub Khan Mayo with Rector & Registrar at University gate with flowers and smiles. Mr. Ayub Khan Mayo praised the platform provided by NCBA&E and shared his knowledge and information on Indian Occupied Kashmir. It was wo derful and true knowledge deliver by Chief Guest General Retired Ghulam Mustafa on Indian occupied Kashmir. He described everything in details from independence of Pakistan till now 2021 what mistakes and big decisions have been taken by our army and personnels in command in perspective of Jammu & Kashmir.







Invited Mishal Khan as a Chief Guest Kashmir Day 2020

### Student Experience Office ~ Orange Day 2021

### Women's Day 2021



Mr. Shafqat Mehmood (Minister of Education) Visited NCBA&E and shared memorable words on education suystem of Pakistan.





The International Women's Day is celebrated globally to recognize the social, economic, cultural and political achievements of women. On 4th March 2021 with our Chief Guest Ms. Masarrat Misbah, Guest of Honor Dr. Shahida Shamim Haider & Respected Guest Ms. Sadeyeh Shahid Haider.



We invited Ms. Parveen Sarwar (The first lady of Punjab) at NCBA&E. She delivered a speech on corruption and how corruption can ruin our society.





We Celebrated Orange Day with Students at NCBA&E on 2nd March 2021. That event was well managed by all the students and department of Student Experience Office. Students contributed in this event by making beautiful charts and model of Orange tree.



### **Club and Societies**

- o Debating Society
- o Music Society
- o Photography Club
- o ART society
- o Sports Society
- o Blood Donner society
- Dramatic society

### **Campus Life**

NCBA&E Campus life have overall aspect of being a student it goes beyond what you learn in the classroom. An energetic environment that is designed to give you a pleasurable academic, professional, and personal experience.



### **ADMISSION POLICY**

The policy provides a framework for the College admissions policies and procedures. The policy applies to the admission of all categories of students to all the programs at the College. The College follows transparent admissions policy and students are selected on the basis of their merits, capabilities and talents.

The College also focuses on the diversity of students, pursues to draw applicants from different social and cultural families and attracts students who are currently under-represented in higher education.

The Student Admissions Committee is responsible for admissions that are operated fairly and in line with the College aims and objectives. The Committee is responsible for setting entry requirements for the College programs in light of HEC directives. Admissions decisions are made by the Student Admissions Committee.

Admission is subject to the guidelines given by HEC and availability of places at the College.

Applications to visiting and exchange programs are also welcome.

Disabled applicants are also welcome. Special considerations and facilities are provided to disabled students but their admissions criteria are judged against the same College entry requirements and follow the same selection process. Any support they need is considered to facilitate their stay at the College.

Admissions decisions are made within a few days and in some cases it may take some longer time.

Admissions decisions are communicated to applicants by facebook and official website that may contain fee structure and specific conditions regarding provisional admissions.

Students are required to observe following rules and regulations governing their studies as may be made from time to time.

### THE SEMESTER SYSTEM

The classes for different programs are conducted on the pattern of semester system. This system is based on instructional autonomy resting with the Institute/faculty and aims at progressive development of student's information level, skill and competencies accomplished over several semesters. Usually a semester is of 18 weeks duration.

### **ACADEMIC CALENDAR**

The academic calendar comprises of two Semesters i.e. SPRING and FALL. The dates of semester along with dates of other academic events are promulgated in the calendar. Each semester runs over 18 weeks, out of which 16 weeks are reserved for regular classes, one week for terminal examination and one week for mid term exams.

### **MEDIUM OF INSTRUCTIONS**

The medium of instructions and examinations is English

### **ADMISSIONS**

Minimum qualifications for admission are:

For Undergrad Programs: 12 year of education form a recognized institution or

equivalent.

For BBA 2 Years Program: 14 years of education from a HEC

recognized university.

For MBA 1.5 Year Program: 16 years of Business Education.

For MBA 2 Year Program: 16 years of Non Business Education.

For MBA Executive Program: 16 years of Education with minimum 3 years working

experience.

Those applicants who have done Intermediate without mathematics shall be required to take additional prerequisites course of mathematics. Admissions to BS (CS), BBA, MBA, BSIT, BSSE and BBA 2 Years are advertised in the leading newspaper of Lahore about six weeks before commencement of each semester. A student desirous of getting admissions in one

of the above-mentioned disciplines fills in university admission form and submits online attested photocopies of academic certificates / degrees, CNIC and three photographs, and an Affidavit on 50/- Rs. Stamp Paper to the Admission Office. Students admitted whilst awaiting examinations results shall have to submit their result card in Admission office at the end of their first semester in NCBA&E, failure will axiomatically be dropped from college rolls.

- Candidates are required to appear in admission tests in the subjects of English, General Knowledge & Math for BS(CS) BSIT, BSSE and BBA 2 Years program and English & General Knowledge for BBA and MBA programs.
- > Those who qualify the admission tests are interviewed by an interview committee with concerned dean in the chair.

### **ADMISSION POLICY OF TRANSFER STUDENTS**

The admission officer shall verify the transcript of applicants for admissions coming from other Institutions with the original transcripts and make a note of it on the photocopy of the transcript (both for transfer of credits and last terminal degree). In the absence of admission officer, one of the members of admission committee shall verify the original transcripts.

The admission office shall start assessment process for the courses to be exempted immediately and complete it within one week of the admission of the candidate. If, however, the transcript is not available, the candidate would be given a definite date by which he/she should submit the transcript so that the assessment formalities are completed in time before the commencement of the semester. This verification procedure shall be applicable to degrees and certificates awarded by the private/public universities and board of education.

In the case of all other institutions the copies of transcripts shall be sent to the institutions concerned for verification. The process shall be initiated by the admission officer and the communication shall be signed by the Registrar. The assessment of courses to be exempted shall be done soon after the verification has been received from the parent institution. After this the exemption will be recorded in the database by the Examination cell.

The Admission office shall keep a record of the cases whose verification or exemption has not yet completed and ensure there is no undue delay in the finalization of these cases. The exemption orders will be preferred by the admission office and signed jointly be the concerned Dean/HoD/Director and Registrar.

#### TRANSFER RULES

- 1. Only A/B/C Grade will be exempted.
- 2. Students seeking transfer from other Chartered Institutions will be allowed exemptions on case to case basis up to 1/3rd of the courses offered at NCBA&E subject to verification of their transcripts by admission office, (see Paragraph 3).
- 3. No exemption will be provided from lower to upper level of education.

#### FEE PAYMENT PROCEDURE

All college dues for a particular semester shall be paid at the time of admission by the new students and by the date specified in the Academic Calendar by the other students.

In case, a student is unable to pay his/her dues by the said date, he/she shall pay 25% of the total amount at the time of registration of courses remaining in three equal installments before the sixth day of the succeeding months to complete the payment before the final term examinations.

Students who fail to clear their dues according to the procedure shall have to pay fine according to the following schedule.

Rs.300/ for 1st week Rs.500/ for 2nd week Rs.1000/ for 3rd week Rs.1500/ for 4th week

Defaulters shall not be allowed to take the midterm and final term examinations.

If a student wants to withdraw from the college, 75% of the dues paid by him will be refunded within seven days of the date of deposit. 50% within two weeks and no refund after 2 weeks. Registration fee will however, not be refunded.

Dues shall not be transferred from the name of one student to the other or from a degree program to a non - degree program.

Dues of the college shall be paid through a bank draft or in cash. No cheques shall be entertained.

#### **ACEDEMIC & DISCIPLINE RULES**

Students are required to maintain a CGPA 2.5 or above in undergraduate programs and 3.00 in graduate programs. Those who fail to do so by the end of the program will be issued only a transcript with notation a Degree requirements NOT COMPLETED, they will not be entitled to receive degree.

#### **ACEDEMIC & DISCIPLINE RULES**

All kinds of indiscipline or misconduct shall be dealt with firmly. It may also lead to dropping of the students from the college rolls.

#### **ACEDEMIC & DISCIPLINE RULES**

Academic dishonesty involving cheating in the examinations, plagiarism, forging of documents

- i) Rude behavior with Faculty and Staff
- ii) Unruly behavior on the campus
- iii) Violation of college rules and regulations

#### **PROHIBITION OF SMOKING**

The college campus is "No Smoking" area and smoking on campus is prohibited. Anyone found smoking on campus will be heavily fined.

- i) On first warning NIL
- ii) On second warning Rs.500/-
- iii) On third warning Rs.1000/-

Repeated defaults may lead disciplinary action and to the expulsion from the college.

#### MS/ MPhil and PhD Admission Criteria

#### **SCHEDULE**

In each academic year, there are two intakes i.e. Spring Semester and Fall Semester.

#### **ELIGIBILITY**

16 years of education or 4-year education (130 credit hours) after 12 years of education or equivalents will be required for admission in the M.Phil/MS. The. The NCBA&E test is mandetory. The GAT-General test is valid for a period of two years. A minimum of 2.50 CGPA or equivalent is required in last terminal degree.

#### **ELIGIBILITY**

Provisional eligibility is only possible in case of absence of GAT general and that is only for MS Program. Candidate shall be bound to appear in upcoming GAT test or else admission shall be considered null and void.

#### **ACEDEMIC & DISCIPLINE RULES**

Candidate shall submit admission form along with copies of all previous academic certificates, GAT result card, Copy of NIC and detail CV. Director Research shall invite eligible candidates for interviews; he also needs to communicate the interview schedule to admission committee.

The admission committee consisting of the following shall conduct admission interviews;

- i. Rector
- ii. Director Research or his nominee from the research faculty
- iii. Professor of relevant subject (if aforementioned committee needs any assistance)

In case of any conflict of opinion, Rector's decision shall be the final verdict. Committee needs to focus on following points explicitly;

- a) Research interest of the candidate
- b) Capability of the candidate to perform in research based academia
- c) Practicality of candidate's academic plan i.e. availability of the dedicated time, professional commitments, financial strength etc.
- d) Candidate's objective for higher education.

After interviews, all forms shall be submitted to the office of Director Research, who will produce Acceptance Letter for successful candidates. Acceptance letter shall contain all terms and conditions for every individual candidate e.g. admission status (provisional/regular), deficiency coursework (if any), financial package, list of exempted courses in case of transfer, minimum required duration and degree requirements. A separate sheet of rules and regulations needs to be signed and submitted along with the acceptance letter by the candidate.

If candidate fails to submit the registration fee until the date mentioned in the acceptance letter then a period of two weeks shall be considered as grace period, after which admission shall be considered null and void. In case, a candidate reappears after the grace time then his/her request can only be considered for next admission tenure.

Candidate shall submit the acceptance letter, rules and regulations consent form along with registration fee payment proof to the program coordinator within the stipulated timeframe. On receipt of which, he/she shall get the coursework schedule for respective semester to start subject registration of subjects of candidate's choice. NCBA&E shall provide guidance/counseling to candidates in subject selection in every semester. A list of relevant course advisors shall be displayed on the notice board, similarly subject registration forms shall be duly signed by the candidate and respective academic advisor.

#### **TRANSFER**

In case candidate is transferring his/her credits from any other institute, the following criteria shall be followed strictly;

- 1. Candidate shall be studying in HEC recognized institute
- 2. In case of foreign institute, equivalence certificate by HEC is required
- 3. NOC is required from the parent institute for any transfer
- 4. A maximum 50% of coursework may be exempted and in this, subjects under consideration shall contain A , B or C grades only. Subjects with D or below grades shall not be exempted.
- 5. Comprehensive Examination is not a subject for exemption consideration. If a candidate had passed a Comprehensive exam in any other institute, that shall be considered null and void.
- 6. Candidate shall appear inComprehensive examination after the completion of coursework at NCBA&E.
- 7. There shall not be any effect on financial structure in case of transfer. Registration and subject fees shall be charged as per policy.
- 8. The admission committee shall verify the transcript of applicants for admissions coming from other Institutions with the original transcripts and make a note of it on the photocopy of the transcript (both for transfer of credits and last terminal degree).

The office of Director Research shall start assessment process for the courses to be exempted immediately and complete it within one week of the admission of the candidate. If however, the transcript is not available, the candidate would be given a definite date by which he/she should submit the transcript so that the assessment formalities are completed in time before the commencement of the semester. This verification procedure shall be applicable to degrees and certificates awarded by the public universities and board of education.

- 1. In the case of all other institutions, the copies of transcripts shall be sent to the institutions concerned for verification. The assessment of courses to be exempted shall be done soon after the verifications have been received from the parent institutions. After this, the exemption will be reported to the respective department as well as the candidate.
- 2. The office of Director Research shall keep a record of the cases whose verification or exemption has not yet completed and ensure there is no undue delay in the finalization of these cases.

#### **SCHOLARSHIP**

In higher education there is no concept of any financial discounts or rebates, the only possible financial appreciation is in form of an academic scholarship. At NCBA&E, MS/M.Phil candidates may attain "Rector's Scholarship" conditioned to the respective eligibility and recommendations. The scholarship policy is formulated below;

- a) Scholarship shall be awarded strictly based on academic excellence.
- b) A scholarship holder shall be bound to perform certain duties at campus, failing to which shall revoke the schol arship facility. The Rector on the dual recommendation of the relevant subject professor and Director Research shall decide these duties. These duties may incorporate the following;
  - 1. Teaching at undergrad level
  - 2. Tutorial group management as an assistant to a faculty member/tutorial head
  - 3. Proofing and review of dissertations / publications
  - 4. Marketing of Research Program
  - 5. Arranging seminars / workshops by inviting eminent scholars
  - 6. Research Assistant to a faculty member
- c) In case, Rector considers need-based grounds to award a scholarship then it shall be linked with equivalent official duties as well.
- d) HEC scholarship holders need to adhere to the university rules as well as the rules and regulations stipu lated by HEC for them. Daily attendance is a compulsory requirement along with minimum 06 hours at campus premises. The attendance of all HEC scholars is available with program coordinator.
- e) All HEC scholars shall pay their dues on time. In case of any delay in the release of HEC funds, institute shall provide a maximum of one semester as grace period, afterwards the candidacy of the research scholar shall be considered null and void due to non-payment. Therefore, all HEC scholars shall pay their respective dues in time; amounts paid by individuals shall be reimbursed on the arrival of funds from HEC.

# Prof. Shams Ur Rehman Director Admission



### Message

I am pleased to welcome the students and congratulate the senior students for qualifying their exams and getting good grades. To meet the challenges of the 21 st century. National college of Business Administration and Economics (NCBA&E) is committed to produce professionals to serve in Business Management, Information Technology and in Economics etc...

I hope that Faculty and staff will inspire the students to expand and enrich its potential and talent to face the difficulties of life and try to find the ways to overcome the difficulties. Following are some steps which we are going to take to achieve our goals.

- The teachers motivate the students for higher education.
- Students are encouraged and ask questions in class.
- Students are advised to consult the teachers during scheduled office hours.
- Grades, tests and assignments are discussed in class.

### Athar Ikram Khan

### Controller of Examination

### Message

It is the basic trait of an excellent academic establishment to provide high quality education by imparting up to date knowledge and skills to the students. Controller of Examination (CE) office is one of the most important statutory departments of any educational institute and has a sole objective to create and execute a system to examine the knowledge and skills inculcated by the instructors to the students. Department of Examination at NCBA&E strives to ensure the elementary objective of quality, transparency, secrecy, and accuracy while performing the fundamental duty of provision of services and administration related to examination of the students from semester results to the official transcript and degree.

The Controller of Examination office at NCBA&E abides by all the rules and regulations prescribed by Higher Education Commission (HEC) of Pakistan.



### **EXAMINATION AND ASSESSMENT POLICY**

- 1. An examination cell headed by the Controller of Examination conducts examinaton, collects and collates the results of the examinaton from the faculty as well as issues transcripts and degrees to the students.
- 2. All teachers are expected to hand in their exam papers ten days prior to the exam. They submit results of the exam within three days of the conduct of exam. Faculty may share the graded exams with students in the dates announced by Controller Examination.

All grades entered on the transcript are signed by Controller of Examination and the Dean/HoD/Director, and stamped and embossed with college seal.

### **MODE OF EVALUATION**

Two formal examinations are held in every semester:

- 1. Mid-term and Final-term exams.
- 2. Faculty of the course must supervise during the Mid-term and Final-term examinations.
- 3. All permanent faculty members irrespective of their seniorities shall be assigned invigilation of minimum of one exam per day excluding their own course.
- 4. All photocopies of exams question papers shall be obtained through the Controller of Examination.
- 5. Duration of the examination shall be limited to of three hours or ninety minutes per exam.

- 6. To discourage the growing tendency of appearing in make-up examina ons, the Academic and Disciplinary Committee have decided that the students who fail to appear in midterm and final term examination will be allowed another chance on the following grounds only:
  - i. Hospitalization of the student during the examination.
  - ii. Death of close family members. The close family is defined as mother, father, real brother and real sister.

There will be a re-examination charge of PKR 500/- per course. The grade scored in the particular subject may be reduced by one letter grade or equivalent percentile. Students opting for makeup exams will be at an inherent disadvantage as compared to those taking regular exams.

### **GRADE CHANGE**

Grade once awarded is not changed. A student may, however apply for a re- check of his answer book to satisfy himself that no question has been left unmarked and marks have been totaled correctly. Student getting grade 'I' in any course must get this grade converted by their instructor as soon as possible and complete the course within six weeks of the date of the result otherwise this grade will be changed into grade 'F'.

### MAKEUP OF ASSIGNMENTS /TESTS ETC.

The students must make up for any class assignments / test or other requirements that he / she misses as a result of his/her absence. It is his/her responsibility to check with the concerned teacher. However if a student misses a significant number of classes, Academic and Disciplinary Committee may decide that he/she should repeat the courses.

### **MECHANISM OF ASSESSMENT & EXAMINATION**

- a) Assessment includes:
  - i) Quizzes/Tests
  - iii) Assignments
  - iv) Attendance

- i) Mid-Term Examination
- iii) Term Paper Project/Presentation
- iv) Final-Term Examination

### b) **Grading System**

A grade is given in each course, in which a student is registered. Grades are indicated by letters and assigned honors, points as shown in the table below. (It is the recommendation of IUFB).

| Letter Grade | GPA                  |   |
|--------------|----------------------|---|
| А            | 4.0                  | 80% and Above                                     |
| В            | 3.0                  | 70%-79%   |
| С            | 2.0                  | 60% - 69%   |
| D            | 1.0                  | 50% - 59%   |
| F            | 0.00                 | Below 50%   |
| W            | Not included for CGP | A calculation as student withdraw from the course |
| T T          | Incomplete           |   |

### C) I-Incomplete:

A temporary course grade granted by an instructor when necessary absence, or other reasons prevent completion of course requirements by the end of the semester or session. A student must be passing the course to be eligible for an "I". An "I" is not given as a substitute for a failing or low grade. Incomplete grades will convert to an "X" if not removed within 6 weeks.

### d) W-Official Withdrawal:

A grade of "W" is given in a course when a student officially withdraws from that course or from the university at least one day prior to the last mid-term.

### e) Honor Points:

The number of honor points earned in a course is the number of semester hours credit given by the course multiplied by the value of the letter grade received, as shown in the preceding table. For example, a grade of "B" in a four-hour course gives 4 × 3 i.e. 12 honor points. Honor point deficiencies acquired in credits earned at the National College of Business Administration & Economics cannot be made up by credits and honor points earned at another university or college. Only credit hours are Transferred from another University, neither grades nor honor points.

### f) Grade Point Average (GPA):

A grade point average is obtained by dividing the total number of honor points earned by the total number of semester hours completed. For example, a total for forty-eight honor points earned in a semester by a student who completed sixteen hours of course work gives a grade point average of 3.0 for the semester.

### g) Academic Standards:

All Undergraduate candidates must earn an overall Grade Point Average (GPA) of at least 2.0 to satisfy progress towards the end.

Regular Standing: A graduate student is in good standing whenever the student's overall GPA is at least 2.5. All MBAs/MS/MPhil candidates must earn an overall grade point average (GPA) of at least 3.0 to satisfy progress towards the end.

### Warning:

Whenever the GPA during any enrollment period of an undergraduate student is less than 2.0 or the cumulative grade point average (CGPA) is 2.0 or less, the student will be warned.

#### **Probation:**

If an undergraduate student's CGPA falls below 2.0, the student will be placed on probation for one semester. If a graduate student's CGPA falls below 3.0, the student will be placed on probation for one semester.

#### **Probation Removed:**

When the condition of good standing is restored, probation will be removed.

#### **Dismissal:**

The undergraduate student who fails to increase his/her CGPA at the end of an enrollment period of probation or whose CGPA fails to reach 2.0 at the end of an enrollment period and continued on probation for 2 semesters, will be dropped from the College rolls.

The graduate student who fails to increase his/her CGPA at the end of an enrollment period of probation or whose CGPA fails to reach 3.0 at the end of an enrollment period and continued on probation for 02 semesters, will be dropped from the College rolls

#### **GRADE POLICY**

- Final results shall be declared by Examination Departmrment. Grades are not to be declared in the classes.
- All grade revision cases must be explained to the relevent Dean in person by the instructor of the particular course before it is approved.
- No grade revision is allowed after 6 weeks from the date of the result. All results are submitted before the prescribed dates duly signed by the faculty members, along with the class and examination attendance sheets.
- The students who have been awarded grade 'I' should have the grade converted within 6 weeks of the result otherwise it will be automatically converted into 'F' grade.
- In case of grade change, the name and registration number of the student will be circled on the original result sheet with a red marker and a note will be written on it to refer to the grade change file. No changes/additions are to be made on the original result sheet.
- In case if instructor forgets/missed to post the result of a student, the Controller of Examination will get in touch with the instructor who will personally come and post the result on a new result sheet, which will be duly signed by the instructor and counter-signed by Director (Academics). The sheet will then be attached to the original result sheet with a note from the Controller of Examination.
- Students who have an F grade in their final transcript and their course requirement/credit hours for a program are completed, their F will not be deleted from the transcript unless they repeat the subject with a higher grade.
- In case a course is removed from a program and substituted by another, the students will be allowed to study the course substituted in place of the one which has been removed. Grade F in this particular case will be replaced by the grade to the new subject.
- Similarly, if a student has to improve grade F or D and the same course is not being offered, he/she will be offered a new course. Grade F or D will be replaced by the new grade in the course offered in lieu thereof.
- In both the above mentioned cases, the decision will be taken by the Controller of Examination in consultation with the
  Director (Academic) and the old subject will be dropped from the final transcript. The physical record shall, however, be
  retained in the Examination office. Dropping of course will be done through Add/Drop procedure.

### PROCEDURE FOR ISSUING TRANSCRIPT/DEGREE.

#### TRANSCRIPT:

- (1) The student has to submit an application to the Controller of Examination Office along with the clearance form duly signed by all the relevent departments.
- (2) The student has to collect the transcript from the Registrar's office after seven weeks.
- (3) One additional copy of the transcript will cost PKR 2,000/- and subsequent copies PKR 500/- each.

#### **DEGREE:**

- (1) The student has to submit an application to the Controller of Examination office with a copy of the transcript.
- (2) The graduating CGPA for the graduate programs (18 years) is 3.00 and for the undergraduate programs (16 years) is 2.5.
- (3) If the student does not fulfill the CGPA requirements, the Controller of Examination office will not entertain the application.
- (4) The student collects the Degree from the Registrar's office after 4 weeks.
  - There is an urgent service available for students requiring degree urgently, fee for this service charges are PKR 10,000 and degree will be available within 24 hours.
- (5) Duplicate copy of a Degree shall be issued on payment of PKR. 5000/-.
- (6) The date of award of Degree to be printed in the diploma shall be the date of the declaration of final result of the graduating students.

These rules and regulations are subject to revision and changes.

These rules have been duly approved by the Academic Council and/or HEC and come into force immediately.

### Arrangement for monitoring of teaching, learning and student performance

The spirit of semester system lies in the teaching of individual courses by a faculty member. We can accomplish the educational goals more effectively if each faculty member develops greater details of the process, content and methodology of conducting course work.

There is Quality Assurance and Enhancement Center, which oversees the work of the teachers and the students on regular basis in accordance with HEC directives.

### Dr. Wasim Ahmad Khan

### **Director Research**

### Message

Engaging students in research, innovation, and scholarship is the hallmark of a great research university. Through their participation in research and creative endeavors, postgraduate students become better thinkers, innovators, and problem solvers, cultivating a depth of understanding needed to make a positive impact on the world.

Our mission is to be an instituation of distinction that is committed to the development of human capacities by disseminating knowledge on the core principles of quality, access, impact and relevance.

From supporting faculty and instructors as they include research and creative projects in their courses, to facilitating service-learning, social entrepreneurship, and research projects with community-based organizations around the world, from programming to involve underclassmen and historically underrepresented students in research and scholarship, to showcasing the work of student researchers through discussion and publications.

In support of our outstanding, diverse and highly regarded faculty, our office seeks to facilitate internal and external collaborations to promote research excellence and success in extramural funding.

In my role, I serve on NCBA&E, as a Director Research, which advises campus research leadership on questions and issues that affect campus and school research efforts and the university's efforts to meet its research vision and mission.



## NCBA&E Permanent Faculty (Main Campus)

| Sr. | Name                            | Qualification               | Designation                               |
|-----|---------------------------------|-----------------------------|---|
| 01  | Prof. Dr. M. Saleem Khan        | PhD Computer Science        | Rector                                    |
| 02  | Dr. Muhammad Hanif              | PhD Statistics              | Pro-Rector(Academics)                     |
| 03  | Dr. Alia Ahmed                  | PhD Business Administration | Dean School of<br>Business Administration |
| 04  | Dr. Abdul Khalique              | PhD Statistics              | Dean<br>Faculty of Social Sciences        |
| 05  | Dr. Sagheer Abbas               | PhD Computer Science        | Dean School of<br>Computer Science        |
| 06  | Dr. Umar Safdar Kiani           | PhD Business Administration | HoD<br>Business Administration            |
| 07  | Dr. Wasim Ahmad Khan            | M.Phil. Computer Science    | HoD Computer Science                      |
| 08  | Dr. Muhammad Kalim Shiekh       | PhD Mathematics             | HoD Mathematics                           |
| 09  | Prof. Jameel Murtaza<br>Hussain | M.Sc. Psychology            | Registrar                                 |
| 10  | Mr. Athar Ikram Khan            | MS in Marketing             | Controller Examination                    |
| 11  | Dr. Ghulam Abid                 | PhD Business Administration | Director Research                         |

| Sr. | Name                           | Qualification                     | Designation                              |
|-----|--------------------------------|-----------------------------------|--|
| 12  | Prof. Shams ur Rehman          | M.Sc. Electronics                 | Director Admissions                      |
| 13  | Mr. Altaf ur Rehman            | MS in Project Management          | Director QAEC                            |
| 14  | Ms. Iram Saba                  | MA Philosophy                     | Director CDAR                            |
| 15  | Syeda Mujtaba Zahra Rozi Rizvi | MA Urdu                           | Director Student Affairs                 |
| 16  | Mr. Amer Awan                  | MS Business Administration        | Director Campuses                        |
| 17  | Ms. Saima Hassan               | MBA (Equivalent to 18 years)      | Assist. Prof.<br>Business Administration |
| 18  | Ms. Mehreen Ashraf             | M.Phil. Business Administration   | Assist. Prof.<br>Business Administration |
| 19  | Ch. Zahid Hassan               | MS in Computer Science            | Assist. Prof.<br>Computer Science        |
| 20  | Ms. Sidra Bashir               | M. Phil in Accounting and Finance | Assist. Prof.<br>Business Administration |
| 21  | Ms. Asma Omar                  | M.Phil. Business Administration   | Assist. Prof.<br>Business Administration |

| Sr. | Name                        | Qualification                   | Designation                              |
|-----|-----------------------------|---------------------------------|--|
| 22  | Ms. Umber Asad              | M.Phil. Mathematics             | Assist. Prof. Mathematics                |
| 23  | Ms. Humaira Taj             | MBA (Equivalent to 18 years)    | Assist. Prof.<br>Business Administration |
| 24  | Mr. Tehami Mustaasam        | M.Phil. Computer Science        | Lecturer<br>Computer Science             |
| 25  | Ms. Misbah Ashraf           | M.Phil. Business Administration | Lecturer<br>Business Administration      |
| 26  | Mr. Aziz ur Rehman          | MS Computer Science             | Lecturer<br>Computer Science             |
| 27  | Mr. Muhammad Asif           | M.Phil. Computer Science        | Lecturer<br>Computer Science             |
| 28  | Mr. Gulzar Ahmad            | MS Computer Science             | Lecturer<br>Computer Science             |
| 29  | Hafiz Muhammad IntizarJaved | M.Sc. Finance & Accounting (UK) | Lecturer<br>Business Administration      |
| 30  | Mr. Tahir Ahmed             | MS in Information Security      | Lecturer<br>Computer Science             |
| 31  | Dr. Adnan Khan              | PhD. Mathematics                | Lecturer<br>Mathematics                  |

## NCBA&E Permanent Faculty (DHA Campus)

| Sr. |                           |               |                     |
|-----|---------------------------|---------------|---------------------|
|     | Name                      | Qualification | Designation         |
| 01  | Mr. Sajjad Elahi Bhatti   | M. PHIL       | Campus Director     |
| 02  | Mr. Nauman Saeed          | M. PHIL       | Director Operations |
| 03  | Mr. Hafiz Muhammad Waseem | MS            | Lecturer            |
| 04  | Mr. Saif Ullah            | Ph.D Scholar  | Assistant Professor |
| 05  | Mr. Yasir Iftikhar        | M.PHIL        | Lecturer            |
| 06  | Mr.Faisal Fiaz            | MS            | Lecturer            |
| 07  | Mr.Hassan Raza            | M.PHIL        | Lecturer            |
| 08  | Mr.Nasir Ali              | M.PHIL        | Associate Professor |
| 09  | Mr.Haroon Ali             | M.PHIL        | Lecturer            |
| 10  | Mr.Muhammad Shahbaz       | M.PHIL        | Assistant Professor |
| 11  | Dr.Afshan Tabassum        | P.hD          | Assistant Professor |
| 12  | Mr.Basharat Raza          | Ph.D Scholar  | Lecturer            |
| 13  | Mr.Muhammad Faizan        | MS            | Lecturer            |

## NCBA&E Permanent Faculty (East Canal Campus)

| Sr. | Name                       | Qualification       | Designation         |
|-----|----------------------------|---------------------|---------------------|
| 01  | Mian Muhammad Abbas Hashim |                     | Capmus Director     |
| 02  | Mian Hassan Murtaza        |                     | Finance Manager     |
| 03  | Dr. Syed Mutahir Hussain   | PhD.                | Pro-Rector          |
| 04  | Dr. Muhammad Qasim Rind    | PhD.                | Vice Pro-Rector     |
| 05  | Dr . Amir Ikram            | PhD.                | Assistant Professor |
| 06  | Ghazanfar Ali Shahzad      | MS/M.Phil.          | HOD                 |
| 07  | Muhammad Nawaz             | PhD. Scholar MGT    | Lecturer            |
| 08  | Muddassaraha Sadaf         | PhD. Scholar MGT    | Lecturer            |
| 09  | Saman Razzaq               | MS/M.Phil. Commerce | Lecturer            |
| 10  | Muhammad Laeeq             | MS/M.Phil. MGT      | Lecturer            |
| 11  | Mr. Saad Salman            | MBA                 | Lecturer            |
| 12  | Muhammad Laeeq             | MS/M.Phil. MGT      | Lecturer            |
| 13  | Zeeshan Ahmed              | MS/M.Phil. MGT      | Lecturer            |
| 14  | Sadia Yousaf Khan          | ACCA                | Lecturer            |

| Sr. | Name              | Qualification     | Designation |
|-----|-------------------|-------------------|-------------|
| 15  | Rabia Riaz        | MSC- Psychology   | Lecturer    |
| 16  | Ayesha Farooqui   | M.Phil. MKT       | Lecturer    |
| 17  | Muhammad Azhar    | MS/M.Phil. Stat   | Lecturer    |
| 18  | Lubna Latif       | LLB/LLM           | Lecturer    |
| 19  | Mohsin Naqvi      | M.Phil. Islamic   | Lecturer    |
| 20  | Muhammad Nadeem   | MS/M.Phil. MGT    | Lecturer    |
| 21  | Muhammad Ali      | MS/M.Phil. Eco    | Lecturer    |
| 22  | Ghulam Murtaza    | M.S CS            | HOD         |
| 23  | Arslan Javaid     | BS/MPhil (Con)    | Lecturer    |
| 24  | Aqib Asad         | MS/MPhil (Con)    | Lecturer    |
| 25  | Nabeel Bin Ezad   | B.S S.Eng. CS     | Lecturer    |
| 26  | Hareem Aslam      | MS/MPhil CS       | Lecturer    |
| 27  | Zahid Shoukat     | MS/MPhil CS       | Lecturer    |
| 28  | Muhammad Hussnain | MS/MPhil CS (Con) | Lecturer    |
| 29  | Suhaib Khalid     | M.Phil. Lit       | HOD Eng     |

| Sr. | Name                | Qualification        | Designation |
|-----|---------------------|----------------------|-------------|
| 30  | Nadeem Chuhan       | PhD. (In Progress)   | Lecturer    |
| 31  | Mr. Ali Umair       | M.Phil. Ling.        | Lecturer    |
| 32  | Basharat Ali        | MS/M.Phil. Ling.     | Lecturer    |
| 33  | Zia ud Din Siddiqui | M.Phil. Ling. & Lit. | Lecturer    |
| 34  | Shahbaz Ali         | M.Phil. Ling.        | Lecturer    |
| 35  | Muhammad Ali H      | PhD. (In Progress)   | HOD         |
| 36  | Mr. Tahir Shahzad   | M.Phil. Math         | Lecturer    |
| 37  | Isma Ghulam Murtaza | M.Phil. Math         | Lecture     |
| 38  | Shahbaz Ahmad       | M.Phil. Math         | Lecturer    |
| 39  | Nimrah Farooq       | M.Phil. Math         | Lecturer    |
| 40  | Aqsa Jamil          | M.Phil. Math         | Lecturer    |
| 41  | Asim Ali            | M.Phil. Math         | Lecturer    |

## NCBA&E Permanent Faculty (West Canal Campus)

| Sr. | Name                | Qualification                         | Designation                             |
|-----|---------------------|---------------------------------------|---|
| 01  | Ch. Muhammad Saleem | LLM                                   | Director                                |
| 02  | Syed Zaman Haider   | MS                                    | Campus Admin                            |
| 03  | Dr. Iftekhar Ahmed  | Ph.D (Earth & Environmental Sciences) | HOD (Environmental Management)          |
| 04  | Tehreem Aqsa        | MBA, LL.B                             | Permanent Faculty Member                |
| 05  | Dr. Irshad Khokhar  | Ph.D (Chemistry)                      | Permanent Faculty Member                |
| 06  | Wasim Raza          | M.Phil-Computer Sciences              | IT Manager/<br>Permanent Faculty Member |

## NCBA&E Permanent Faculty (Front Lane Campus)

| Sr. | Name               | Qualification | Designation     |
|-----|--------------------|---------------|-----------------|
| 01  | Mr.Fahd Nawaz Khan | MS            | Campus Director |
| 02  | Dr. Majid          | Ph.d          | Lecturer        |
| 03  | Ms.Mubarah Tariq   | MS            | Lecturer        |
| 04  | Ms.Ayesha Saddiqua | MS            | Lecturer        |
| 05  | Ms.Mariam Altaf    | Masters       | Lecturer        |
| 06  | Ms.Samadia Gull    | ph.d(Conti)   | Lecturer        |
| 07  | Ms.Summiya Saif    | M.phil        | Lecturer        |
| 08  | Ms.Anam Rehman     | M.phil        | Lecturer        |
| 09  | Ms.Maryam Mustafa  | M.phil        | Lecturer        |
| 10  | Dr.Abdul Quddus    | Ph.d          | Lecturer        |
| 11  | Dr.Khadija Khan    | Ph.d          | Lecturer        |
| 12  | Dr.A R Chaudry     | Ph.d          | Lecturer        |
| 13  | Ms.Madiha Butt     | M.phil        | Lecturer        |
| 14  | Dr.Zahid Pervaiz   | Ph.d          | Lecturer        |

| Sr. | Name             | Qualification         | Designation |
|-----|------------------|-----------------------|-------------|
| 15  | Mr. M. Rehan     | Mphil                 | Lecturer    |
| 16  | Mr.Zahid Tufail  | MSC                   | Lecturer    |
| 17  | Mr.Imran         | MS/M.Phil             | Lecturer    |
| 18  | Dr. Nadeem Azhar | Ph.D                  | Lecturer    |
| 20  | Mr. Ali Qamber   | MS/M. Phil(Conti.)    | Lecturer    |
| 21  | Ms.Samra Mushtaq | BFA_Graphic Design    | Lecturer    |
| 22  | Ms.Momina Zahid  | BS_Fashion Designing  | Lecturer    |
| 23  | Ms.Naini Zaidi   | BFA_Graphic Design    | Lecturer    |
| 24  | Ms.Amen Asif     | BFA_Textile Designing | Lecturer    |