- Ph.D Computer Science
- Ph.D Data Science
- Ph.D Software Engineering
- MS Computer Science
- MS Information Technology
- MS Software Engineering
- MS Information Security
- MS Data Science
- MS in Software Project Management
- BS Computer Science
- BS Information Technology
- BS Software Engineering
- BS Data Science
- BS Artificial Intelligence
- BS Cyber Security
- BS Gaming and Multimedia
- BS Internet of Things
- BS Robotics
- Associate Degree in Computer Science
- Associate Degree in Web Design and **Development**
- Associate Degree in Cyber Security
- Associate Degree in Gaming & Multimedia

| Prof. Dr. Arfan Jaffar | Ms. Qa |
|--------------------------------|---------|
| Prof. Dr. Irfan Ud din | Mr. Mu |
| Prof. Dr. Sohail Masood Bhatti | Ms. Fiz |
| Prof. Dr. Muhammad | Mr. M. |
| Waseem Iqbal | Ms. M |
| Mr. Saleem Zubair Ahmed | Mr. Mu |
| Dr. Danish Shezad | Hanif |
| Dr. Tehreem Masood | Mr. Mu |
| Dr. Danish Irfan | Zamar |
| Dr. Sheeraz Akram | Mr. Mu |
| Dr. Ahmad Khan | Hamza |
| Dr. Muhammad Arif | Ms. M |
| Dr. Syed Asad Ali Naqvi | Mr. Sy |
| Dr. Imran Khan | Naqvi |
| Dr. Muhammad Azam | Ms. M |
| Dr. Muhammad Ahmed | Mr. Mu |
| Dr. Jawad Ahmad | Ms. Sa |
| Dr. Muhammad Fawad Nasim | Mr. Sh |
| Dr. Gohar Mumtaz | Ms. Ra |
| Dr. Humayun Khan | Mr. Na |
| Dr. Hafiz Shahzad Dar | Mr. Ja |
| Dr. Bilal Mehboob | Mr. Ha |
| Mr. Muhammad Aqeel | Khushi |
| Ms. Naila Hamid | Mr. Mu |
| Ms. Sabah Arif | Mr. Us |
| Ms. Arshia Naeem | Ms. Ha |
| Mr. Nadeem Jabbar Ch. | Ms. No |
| Mr. Naseer Ahmad | Ms. Ai |
| Mr. Ifraseab Afzal | Ms. Ar |
| Mr. Rohail Shahzad | Mr. Sa |
| Mr. Muhammad Ahmed | Mr. Ab |
| Ms. Tayyaba Farhat | Mr. M. |
| Mr. Shahbaz Ahmad | Mr. Mu |
| Mr. Hamid Sanan | Mr. Ha |
| Mr. Muhammad Sohail Irshad | Mr. No |
| Mr. Munib Ahmad | Mr. Na |
| Mr. Saleem Mustafa | Mr. Mu |
| Mr. Muhammad Nasir Nawaz | Mr. Mu |
| Mr. Muhammad Jameel | Farood |
| | |

Ms. Humaira Muqadas Mr. Muhammad Rizwan

aisra Honev Ms. Sadaf Sattar luhammad Talha Amiad Mr. Syed Ferhan izza Fatima Mr. Ali Abid . Awais Mahboob Momina Hafeez luhammad Tauseef luhammad Waheed u luhammad Ameer lehreen Shahzadi ved Muhammad Auon 1aria Igbal luhammad Javaid Igbal anya Abdullah hahzaib Akmal abia Aziz agesh Kumar alees Ul Hassan afiz Muhammad Tayyab luhammad Adnan Rafig sama layyah Mehmood losheen Akhtar imen Fatima mna Anjum agib Ali Ahmad bdul Rauf Adnan Samad luhammad Zubair Fazail afiz Sajid Ali Kazmi oor Ullah Khan adeem Sarfraz luhammad Owais luhammad Jawad Farooq Mr. Saad Shahzad Ms Noreen khalid

Mr. Saeed Mushtag Ms. Arooj Fatima Mr. Wagas Ms. Zoama Afaq Ms. Maryam Rani Mr. Ali Imran Mr. Muhammad Bilal Qureshi Ms. Misbah Jabeen Mr. Shahid Ameer Ms. Sana Manzoor Ms. Mehak Zahoor Ms. Jaweria Zafar Mr. Muhammad Agib Ms. Asma Abu Bakar Mr. Shakeel Mahmood Ms. Irum Fatima Mr. Taimoor Mr. Osama Imran Mr. Muzammil Dilawar Ms. Ayesha Bibi Mr. Muhammad Qasim Shah Ms. Shawwal Rasheed Mr. Muhammad Umer Faroog Ms. Maham Yaqoob Ms. Amna Safeer Mr. Faisal Shahzad Mr. Muhammad Riaz Shahid Mr. Muhammad Sohaib Ramzan Mr. Sohaib Hafeez Mr. Mujahid Rafig Mr. Iftikhar Hussain Babar Mr. Tahir Igbal Mr. Ahsan Raza Shah Mr. Shahid Mehmood Mr. Hafiz Abdul Wahab Javid

Mr. Syed Muhammad Karar Mr. Haider Bukhari Ms. Uswa Aslam Mr. Zeeshan Ahmed Mr. Salman Muhammad Aslam Mr.Mr. Ahmed Hanif



Ph.D

Computer Science

| Course Duration | 3 Years |
|--------------------|---------|
| Semesters | 6 |
| Total Credit Hours | 48 |

Eligibility

Degree in relevant subject, earned from a recognized university after 18 years of education with at least 75% marks or CGPA of at least 3.0 (on a scale of 4.0). Qualify GAT Subject Test (NTS) with 60% or GAT Subject (University) with 70%.

Semester 1

Advanced Data Science 3
Advanced Human Computer Interaction 3
Advanced Machine Learning 3

Semester 3,4,5 & 6

Thesis 30

Semester 2

| Advanced Image Processing | |
|------------------------------------|--|
| Information Security and Assurance | |
| Research Methods | |

Data Science

| Course Duration | 3 Year | |
|--------------------|--------|--|
| Semesters | 6 | |
| Total Credit Hours | 48 | |

Eligibility

18-years of education with 3 CGPA in science/ engineering/mathematics discipline preferably with 2 years degree program of MS ISE/CS/IT/ EE/CE/DS) or equivalent from HEC recognized university or degree awarding institute. Candidates with relevant master's degrees and candidates with course work or research experience in data science. Relevant degrees include mathematics, statistics, computer science. engineering, and other scientific disciplines that develop skills in drawing inferences or making predictions using data. Two years of relevant work experience is

recommended. Minimum 80% marks in previous degree in case of annual system or 3.00/4.0 CGPA in case of semester system with no more than one second division throughout the academic career. No third division in entire academic career.

Pass the following: i- HEC (HAT)/GAT NTS (General)/Superior Graduate Admission Test; (at least 70%) ii- Admission Interview by Superior Post Graduate Admission Committee.

Semester 1

| Advanced Data Science | |
|-------------------------------------|--|
| Advanced Human Computer Interaction | |
| Advanced Machine Learning | |

Semester 2

| dvanced Image Processing | 3 |
|-----------------------------------|---|
| nformation Security and Assurance | 3 |
| Research Methods | 3 |

Semester 3,4,5 & 6

| Thesis | 30 |
|--------|----|
| | |

Ph.D

Software Engineering

| Course Duration | 3 Year | |
|--------------------|--------|--|
| Semesters | 6 | |
| Total Credit Hours | 48 | |

Eligibility

Degree in relevant subject, earned from a recognized university after 18 years of education with at least 75% marks or CGPA of at least 3.0 (on a scale of 4.0). Qualify GAT Subject Test (NTS) with 60% or GAT Subject (University) with 70%.

Semester 1

| Advanced Data Science | |
|-------------------------------------|--|
| Advanced Human Computer Interaction | |
| Advanced Machine Learning | |

Semester 2

| Advanced Image Processing | , |
|------------------------------------|---|
| Information Security and Assurance | , |
| Research Methods | , |

Semester 3,4,5 & 6

Thesis 30

Computer Science

| Course Duration | 2 Years |
|--------------------|---------|
| Semesters | 4 |
| Total Credit Hours | 30 |

Eligibility

Holding a 16-year degree in the relevant field with a minimum CGPA of 2.0 (on a scale of 4.0) in the semester system or 60% marks in the annual program. Additionally, candidates must secure a minimum of 50% in the Quality GAT General (NTS) or 60% in the GAT General (University).

Semester 1 Advanced Computer Architecture 3 Elective-I 3 Research Methods 3 Theory of Computation

| Semester 2 | |
|--|---|
| Advanced Analysis of Algorithm | (|
| Advanced Operating System Elective-II | , |
| Elective-III | (|

Semester 3 Research Thesis (Part-I)

| Semester 4 | |
|---------------------------|---|
| Research Thesis (Part-II) | 3 |

Information Technology

| Course Duration | 2 Years |
|--------------------|---------|
| Semesters | 4 |
| Total Credit Hours | 30 |

Eligibility

Holding a 16-year degree in the relevant field with a minimum CGPA of 2.0 (on a scale of 4.0) in the semester system or 60% marks in the annual program. Additionally, candidates must secure a minimum of 50% in the Quality GAT General (NTS) or 60% in the GAT General (University).

| Semester 1 | |
|------------------------------------|--|
| Elective-I | |
| Elective-II | |
| Information Security and Assurance | |
| Research Methods | |

| Semester 1 | |
|------------------------------------|---|
| Elective-I | 3 |
| Elective-II | 3 |
| Information Security and Assurance | 3 |
| Research Methods | 3 |

| Semester 5 | |
|--------------------------|--|
| Research Thesis (Part-I) | |
| | |
| | |

| Semester 2 | |
|------------------------------------|---|
| Advance Database Management System | 3 |
| Elective-III | 3 |
| Elective-IV | 3 |
| IT Infrastructure | 3 |

| Semester 4 | |
|---------------------------|---|
| Research Thesis (Part-II) | 3 |
| | |

Software Engineering

| Course Duration | 2 Years |
|--------------------|---------|
| Semesters | 4 |
| Total Credit Hours | 30 |

Eligibility

Holding a 16-year degree in the relevant field with a minimum CGPA of 2.0 (on a scale of 4.0) in the semester system or 60% marks in the annual program. Additionally, candidates must secure a minimum of 50% in the Quality GAT General (NTS) or 60% in the GAT General (University).

Semester 1 Advance Requirement Engineering 3 3 Advanced Software Architecture 3 Elective-I 3 Research Methods

| Semester 3 | |
|--------------------------|---|
| Research Thesis (Part-I) | 3 |
| | |
| | |

| Semester 2 | |
|--|---|
| Elective-II | 3 |
| Elective-III | 3 |
| Elective-IV | 3 |
| Software Testing and Quality Assurance | 3 |

| Semester 4 | |
|---------------------------|---|
| Research Thesis (Part-II) | 3 |
| | |

Information Security

| Course Duration | 2 Years |
|--------------------|---------|
| Semesters | 4 |
| Total Credit Hours | 30 |

Eligibility

Holding a 16-year degree in the relevant field with a minimum CGPA of 2.0 (on a scale of 4.0) in the semester system or 60% marks in the annual program. Additionally, candidates must secure a minimum of 50% in the Quality GAT General (NTS) or 60% in the GAT General (University).

| Semester 1 | | Semester 3 |
|------------------------------|---|--------------------------|
| Elective-I | 3 | Research Thesis (Part-I) |
| Elective-II | 3 | |
| Research Methods | 3 | |
| Advanced Database Management | 3 | |

| Semester 2 | | Semester 4 | |
|---|---|---------------------------|---|
| Advanced Analysis of Algorithm Data Security & Cryptography | 3 | Research Thesis (Part-II) | 3 |
| Elective-III | 3 | | |
| Elective-IV | 3 | | |

MS Data Science

| Course Duration | 2 Years | |
|--------------------|---------|--|
| Semesters | 4 | |
| Total Credit Hours | 30 | |

Eligibility

Holding a 16-year degree in the relevant field with a minimum CGPA of 2.0 (on a scale of 4.0) in the semester system or 60% marks in the annual program. Additionally, candidates must secure a minimum of 50% in the Quality GAT General (NTS) or 60% in the GAT General (University).

Data Mining 3 Research Methods 3 Statistical and Mathematical Methods 3 Tools and Techniques in Data Science 3

| Semester 2 | |
|------------------------------|---|
| Computer Vision | 3 |
| Introduction to Data Science | 3 |
| Machine Learning | 3 |
| Predictive Analysis | 3 |
| | |

Semester 3 Research Thesis (Part-I) 3

| Semester 4 | |
|---------------------------|---|
| Research Thesis (Part-II) | : |

MS in Software Project Management

| Course Duration | 2 Years |
|--------------------|---------|
| Semesters | 4 |
| Total Credit Hours | 30 |

Eligibility

Holding a 16-year degree in the relevant field with a minimum CGPA of 2.0 (on a scale of 4.0) in the semester system or 60% marks in the annual program. Additionally, candidates must secure a minimum of 50% in the Quality GAT General (NTS) or 60% in the GAT General (University).

| Semester 1 | |
|-------------------------------------|---|
| Advance Management & Organizational | 3 |
| Behavior | |
| Advance Requirement Engineering | 3 |
| Elective-I | 3 |
| Research Methods | 3 |

| Semester 3 | |
|--------------------------|---|
| Research Thesis (Part-I) | 3 |
| | |
| | |
| | |

| Semester 2 | |
|---|---|
| Advance Software Process Management & Metrics | 3 |
| Advance Software Project Management | 3 |
| Advance Software Quality Assurance | 3 |
| Computer Vision | 3 |

| Semester 4 | |
|---------------------------|---|
| Research Thesis (Part-II) | 3 |
| Research Thesis (Part-II) | |

BS Computer Science

| Course Duration | 4 Years |
|--------------------|---------|
| Semesters | 8 |
| Total Credit Hours | 132 |

Eligibility

Semester 1

Applied Physics

Discrete Structures

Functional English Programming Fundamentals

Applications of Information &

Communication Technology

Intermediate or Equivalent with minimum 50% marks

Semester 3 Computer Organization & Assembly Language Data Structures & Algorithms Ideology and Constitution of Pakistan Introduction to Marketing (Digital Marketing) Multivariable Calculus 3 Software Engineering

| Semester 4 | |
|---------------------------------|---|
| Analysis of Algorithms | 3 |
| Database Systems | 4 |
| Elective-I | 3 |
| Elective-II | 3 |
| Linear Algebra | 3 |
| Social Science (Introduction to | 2 |

| Semester 2 | | Semester 5 | |
|--------------------------------|---|---------------------------------|--|
| Calculus & Analytical Geometry | 3 | Artificial Intelligence | |
| Digital Logic & Design | 3 | Social Entrepreneurship Program | |
| Expository Writing | 3 | Computer Architecture | |
| Object Oriented Programming | 4 | Computer Networks | |
| Probability & Statistics | 3 | Elective-III | |
| • | | Technical & Business Writing | |

Management)

3

3

3

3

4

| Note: Students with a non-mathematical background must fulfill prerequisite requirements by completing Pre-Calculus and Pre-Algebra courses within |
|--|
| their initial two semesters. |

| Semester 6 | , |
|------------|---|
|------------|---|

| Advance Database Management Systems | (|
|-------------------------------------|---|
| Information Security | 3 |
| Islamic Studies/ Ethics | 2 |
| Operating Systems | (|
| Technopreneurship | (|
| Theory of Automata | 3 |
| | |

Semester 7

| Compiler Construction | ; |
|---------------------------|---|
| Elective-IV | |
| Elective-V | |
| Final Year Project - I | |
| HCL and Computer Graphics | |

Semester 8

| Elective-VI | 3 |
|----------------------------------|---|
| Elective-VII | 3 |
| Final Year Project - II | 3 |
| Parallel & Distributed Computing | 3 |
| Professional Practices | 2 |



BSInformation Technology

| Course Duration | 4 Years | |
|--------------------|---------|--|
| Semesters | 8 | |
| Total Credit Hours | 132 | |

Eligibility

Intermediate or Equivalent with minimum 50% marks

Semester 1 Application of Information & Communication Technology Applied Physics Discrete Structures Functional English Programming Fundamentals

| Semester 3 | |
|---------------------------------------|---|
| Computer Organization & Assembly | ; |
| Language | |
| Data Structures & Algorithms | 4 |
| Digital Marketing | ; |
| Ideology and Constitution of Pakistan | 1 |
| Multivariable Calculus | ; |
| Software Engineering | ; |

| Semester 5 | |
|--------------------------------|--|
| Artificial Intelligence | |
| Computer Architecture | |
| Computer Networks | |
| Introduction to Management | |
| Mobile Application Development | |
| Technical & Business Writing | |
| | |

| Semester 7 | |
|---------------------------------------|---|
| Final Year Project - I | |
| HCI & Computer Graphics | ; |
| Information Technology Infrastructure | ; |
| Network Security | ; |
| Virtual Systems & Services | ; |
| | |

| Semester 2 | |
|--------------------------------|---|
| Calculus & Analytical Geometry | 3 |
| Digital Logic & Design | 3 |
| Expository Writing | 3 |
| Islamic Studies | 2 |
| Object Oriented Programming | 4 |
| Probability & Statistics | 3 |
| | |

| Semester 4 | |
|---------------------------------|---|
| Analysis of Algorithms | 3 |
| Social Entrepreneurship Program | 3 |
| Database Systems | 4 |
| Information Security | 3 |
| Linear Algebra | 3 |
| Web Technologies | 3 |
| | |

| Semester 6 | |
|--------------------------------------|--|
| Cyber Security | |
| Database Administration & Management | |
| Operating Systems | |
| System & Network Administration | |
| Technopreneurship | |
| Theory of Automata | |

| Semester 8 | |
|----------------------------------|---|
| Cloud Computing | 3 |
| Final Year Project - II | 4 |
| Parallel & Distributed Computing | 3 |
| Professional Practices | 2 |
| | |

Software Engineering

| Course Duration | 4 Years |
|--------------------|---------|
| Semesters | 8 |
| Total Credit Hours | 132 |

Eligibility

Intermediate or Equivalent with minimum 50% marks

Semester 1 Application of Information & Communication Technology Applied Physics 3 Discrete Structures Functional English I 3 Programming Fundamentals

| Semester 3 | |
|---------------------------------------|---|
| Data Structures & Algorithms | |
| Database Systems | |
| Ideology and Constitution of Pakistan | |
| Islamic Studies | |
| Multivariable Calculus | ; |
| Software Engineering | ; |
| | |

| Semester 5 | |
|----------------------------------|---|
| Artificial Intelligence | 3 |
| Computer Organization & Assembly | 3 |
| Language | |
| Elective-II | 3 |
| Software Design & Architecture | 3 |
| Technical & Business Writing | 3 |
| Technopreneurship | 3 |
| | |

| Semester 7 | |
|------------------------------|---|
| Elective-IV | |
| Elective-V | |
| Final Year Project - I | |
| Software Project Management | |
| Software Quality Engineering | ; |
| | |

| Semester 2 | |
|---|---|
| Calculus & Analytical Geometry Digital Logic & Design Expository Writing Object Oriented Programming Probability & Statistics | 2 |

| Semester 4 | |
|----------------------------------|---|
| Analysis of Algorithms | 3 |
| Social Entrepreneurship Program | 3 |
| Computer Networks | 3 |
| Elective-I | 3 |
| Linear Algebra | 3 |
| Software Requirement Engineering | 3 |

| Semester 6 | |
|-------------------------------------|---|
| Digital Marketing | 3 |
| Elective-III | 3 |
| Information Security | 3 |
| Introduction to Management | 2 |
| Operating Systems | 3 |
| Software Construction & Development | 3 |

| Semester 8 | |
|--|--|
| Elective-VI Elective-VII Final Year Project - II Parallel & Distributed Computing | |
| Professional Practices | |
| | |



BSData Science

| Course Duration | 4 Years |
|--------------------|---------|
| Semesters | 8 |
| Total Credit Hours | 132 |

Eligibility

Intermediate or Equivalent with minimum 50% marks

Semester 3 Artificial Intelligence Data Structures & Algorithms Ideology and Constitution of Pakistan Islamic Studies Multivariable Calculus Software Engineering

| Semester 6 | |
|---------------------------------|---|
| Social Entrepreneurship Program | 3 |
| Data Mining | 3 |
| Digital Marketing | 3 |
| Elective-III | 3 |
| Information Security | 3 |
| Operating Systems | 3 |

Semester 1 Applications of Information & Communication Technology Applied Physics Discrete Structures Functional English Programming Fundamentals

| Semester 4 | |
|------------------------------|--|
| Computer Networks | |
| Database Systems | |
| Elective-I | |
| Introduction to Data Science | |
| Introduction to Management | |
| Linear Algebra | |
| | |

| Semester 7 | |
|---|---|
| Data Visualization Data Warehousing & Business Intelligence | 3 |
| Elective-IV | 3 |
| Elective-V | 3 |
| Final Year Project - I | 2 |

| Semester 2 | |
|--------------------------------|---|
| Calculus & Analytical Geometry | 3 |
| Digital Logic & Design | 3 |
| Expository Writing | 3 |
| Object Oriented Programming | 4 |
| Probability & Statistics | 3 |
| | |

| Semester 5 | |
|----------------------------------|---|
| Advanced Statistics | 3 |
| Analysis of Algorithms | 3 |
| Computer Organization & Assembly | 3 |
| Language | |
| Elective-II | 3 |
| Technical & Business Writing | 3 |
| Technopreneurship | 3 |
| | |

| Semester 8 | |
|----------------------------------|---|
| Elective-VI | 3 |
| Elective-VII | 3 |
| Final Year Project - II | 4 |
| Parallel & Distributed Computing | 3 |
| Professional Practices | 2 |
| | |

Artificial Intelligence

| Course Duration | 4 Years |
|--------------------|---------|
| Semesters | 8 |
| Total Credit Hours | 132 |

Eligibility

Intermediate or Equivalent with minimum 50% marks

Semester 1 Applications of Information & Communication Technology Applied Physics 3 Discrete Structures Functional English Programming Fundamentals

| Semester 3 | |
|--|--|
| Artificial Intelligence Data Structures & Algorithms | |
| Ideology and Constitution of Pakistan | |
| Islamic Studies Multivariable Calculus | |
| Software Engineering | |

| Analysis of Algorithms | |
|----------------------------------|--|
| , , | |
| Computer Organization & Assembly | |
| Language | |
| Elective-II | |
| Machine Learning | |
| Technical & Business Writing | |
| Technopreneurship | |

| Semester 7 | |
|--|---|
| Artificial Neural Networks & Deep Learning | 3 |
| Elective-V | 3 |
| Elective-VI | 3 |
| Final Year Project - I | 2 |
| Knowledge Representation & Reasoning | 3 |
| | |

| Semester 2 | |
|--------------------------------|---|
| Calculus & Analytical Geometry | 3 |
| Digital Logic & Design | 3 |
| Expository Writing | 3 |
| Object Oriented Programming | 4 |
| Probability & Statistics | 3 |
| | |

| Semester 4 | |
|---|---|
| Computer Networks | 3 |
| Database Systems | 4 |
| Elective-I | 3 |
| Introduction to Management | 2 |
| Linear Algebra | 3 |
| Programming for Artificial Intelligence | 3 |

| Semester 6 | |
|---------------------------------|--|
| Social Entrepreneurship Program | |
| Computer Vision | |
| Digital Marketing | |
| Elective-IV | |
| Information Security | |
| Operating Systems | |

| Semester 8 | |
|----------------------------------|---|
| Elective-VII | 3 |
| Elective-VIII | 3 |
| Final Year Project - II | 4 |
| Parallel & Distributed Computing | 3 |
| Professional Practices | 2 |
| | |

BSCyber Security

| Course Duration | 4 Years |
|--------------------|---------|
| Semesters | 8 |
| Total Credit Hours | 132 |

Eligibility

Intermediate or Equivalent with minimum 50% marks

Semester 1 Applications of Information & 3 Communication Technology Applied Physics 3 Discrete Structures 3 Functional English 3 Programming Fundamentals 4

| Semester 3 | |
|---------------------------------------|---|
| Computer Organization & Assembly | 3 |
| Language | |
| Data Structures & Algorithms | 4 |
| Digital Marketing | 3 |
| Ideology and Constitution of Pakistan | 2 |
| Multivariable Calculus | 3 |
| Software Engineering | 3 |
| | |

| Semester 5 | |
|--------------------------------|--|
| Artificial Intelligence | |
| Computer Architecture | |
| Computer Networks | |
| Introduction to Management | |
| Mobile Application Development | |
| Technical & Business Writing | |
| | |

| Semester 7 | |
|------------------------|---|
| Digital Forensics | 3 |
| Final Year Project - I | 2 |
| Hardware Security | 3 |
| Network Security | 3 |
| Penetration Testing | 3 |

| Semester 2 | |
|---|--|
| Calculus & Analytical Geometry Digital Logic & Design Expository Writing Islamic Studies/ Ethics Object Oriented Programming Probability & Statistics | |
| | |

| Semester 4 | |
|---------------------------------|---|
| Analysis of Algorithms | 3 |
| Social Entrepreneurship Program | 3 |
| Database Systems | 4 |
| Information Security | 3 |
| Linear Algebra | 3 |
| Web Technologies | 3 |
| | |
| | |

| Semester 6 | |
|--|--|
| Cyber Security | |
| Information Assurance | |
| Operating Systems | |
| Secure Software Design and Development | |
| Technopreneurship | |
| Wireless and Mobile Security | |

| Semester 8 | |
|----------------------------------|---|
| Final Year Project - II | 4 |
| Malware Analysis | 3 |
| Parallel & Distributed Computing | 3 |
| Professional Practices | 2 |

Gaming and Multimedia

| Course Duration | 4 Years |
|--------------------|---------|
| Semesters | 8 |
| Total Credit Hours | 132 |

Eligibility

Intermediate or Equivalent with minimum 50% marks

Semester 1 Applications of Information & Communication Technology Functional English Applied Physics Discrete Structures Programming Fundamentals

| Semester 3 | |
|---|---|
| Ideology and Constitution of Pakistan Multivariable Calculus | 2 |
| Introduction to Marketing (Digital Marketing) | 3 |
| Data Structures & Algorithms | 4 |
| Computer Organization & Assembly | 3 |
| Language Software Engineering | 3 |

| Semester 5 | |
|---------------------------------|--|
| Artificial Intelligence | |
| Social Entrepreneurship Program | |
| Technical & Business Writing | |
| Game Design and Development | |
| Computer Networks | |
| Elective-III | |
| | |

| Semester 7 | |
|-----------------------------|---|
| Final Year Project - I | |
| Interactive Games and Audio | 3 |
| Video Production Techniques | 3 |
| Elective-IV | 3 |
| Elective-V | 3 |
| | |

| Semester 2 | |
|---|---|
| Digital Logic & Design Expository Writing Calculus & Analytical Geometry Probability & Statistics Object Oriented Programming | ; |
| | |

| Semester 4 | |
|---------------------------------|---|
| Analysis of Algorithms | 3 |
| Database Systems | 4 |
| Social Science (Introduction to | 2 |
| Management) | 0 |
| Linear Algebra | 3 |
| Elective-I | 3 |
| Elective-II | 3 |

| 3 |
|---|
| 3 |
| 3 |
| 2 |
| 3 |
| 3 |
| |

| Semester 8 | |
|----------------------------------|---|
| Final Year Project - II | 3 |
| Professional Practices | 4 |
| Parallel & Distributed Computing | 3 |
| Elective-VI | 3 |
| Elective-VII | 3 |
| | |

BSInternet of Things

| Course Duration | 4 Years | |
|--------------------|---------|--|
| Semesters | 8 | |
| Total Credit Hours | 132 | |

Eligibility

Intermediate or Equivalent

Semester 1 Applications of Information & 3 Communication Technology Applied Physics 3 Discrete Structures 3 Functional English 3 Programming Fundamentals 4

| Semester 3 | |
|---------------------------------------|---|
| Computer Organization & Assembly | 3 |
| Language | |
| Data Structures & Algorithms | 4 |
| Digital Marketing | 3 |
| Ideology and Constitution of Pakistan | 2 |
| Multivariable Calculus | 3 |
| Software Engineering | 3 |

| Semester 5 | |
|--|--|
| Artificial Intelligence Computer Networks Introduction to Internet of Things | |
| Introduction to Management Mobile Application Development | |
| Technical & Business Writing | |

3

| Semester 7 | |
|--|---|
| Final Year Project - I | 2 |
| Introduction to Security of Internet of Things | 3 |
| and Cyber-Physical Systems | |
| IoT Applied Machine Learning | 3 |
| Network Protocols for IoT | 3 |
| Wireless Communication Networks | 3 |

| Semester 2 | |
|--------------------------------|---|
| Calculus & Analytical Geometry | 3 |
| Digital Logic & Design | 3 |
| Expository Writing | 3 |
| Islamic Studies | 2 |
| Object Oriented Programming | 4 |
| Probability & Statistics | 3 |
| | |

| Semester 4 | |
|---------------------------------|---|
| Analysis of Algorithms | 3 |
| Social Entrepreneurship Program | 3 |
| Database Systems | 4 |
| Information Security | 3 |
| Linear Algebra | 3 |
| Web Technologies | 3 |

| Semester 6 | |
|--|---|
| Computer Architecture | 3 |
| Introduction to Circuits & Electronic Hardware | 3 |
| IoT Analytics and data visualization with Cloud Services | 3 |
| Microcontrollers for IoT Devices | 3 |
| Operating Systems | 3 |
| Technopreneurship | 3 |

| Semester 8 | |
|----------------------------|---|
| Communication Theory | 3 |
| Final Year Project - II | 4 |
| Professional Practices | 2 |
| Real Time Embedded Systems | 3 |
| | |
| | |

BSRobotics

| Course Duration | 4 Years |
|--------------------|---------|
| Semesters | 8 |
| Total Credit Hours | 132 |

Eligibility

Intermediate or Equivalent

Semester 3Ideology and Constitution of Pakistan2Multivariable Calculus3Introduction to Marketing (Digital Marketing)3Data Structures & Algorithms4Computer Organization & Assembly3LanguageSoftware Engineering3

| Semester 6 | |
|---------------------------|---|
| Digital Signal Processing | (|
| Technopreneurship | ; |
| Islamic Studies/ Ethics | 2 |
| Operating Systems | (|
| Information Security | |
| Embedded Systems | (|
| | |

| Semester 1 | |
|-------------------------------|---|
| Applications of Information & | 3 |
| Communication Technology | |
| Functional English | 3 |
| Applied Physics | 3 |
| Discrete Structures | 3 |
| Programming Fundamentals | 4 |

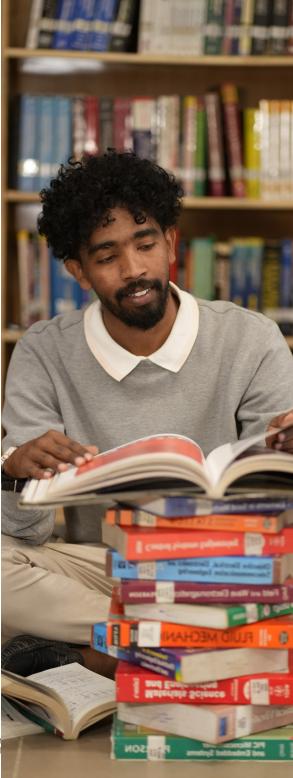
| Semester 4 | |
|---------------------------------|---|
| Analysis of Algorithms | 3 |
| Database Systems | 4 |
| Social Science (Introduction to | 2 |
| Management) | |
| Linear Algebra | 3 |
| Elective-I | 3 |
| Elective-II | 3 |

| Semester 7 | |
|-------------------------|---|
| Final Year Project - I | 3 |
| Feedback Control System | 3 |
| Electrical Machines | 3 |
| Elective-IV | 3 |
| Elective-V | 3 |

| Semester 2 | |
|--------------------------------|---|
| Digital Logic & Design | 3 |
| Expository Writing | 3 |
| Calculus & Analytical Geometry | 3 |
| Probability & Statistics | 3 |
| Object Oriented Programming | 4 |

| Semester 5 | |
|---------------------------------|---|
| Artificial Intelligence | 3 |
| Computer Aided Design | 3 |
| Social Entrepreneurship Program | 3 |
| Technical & Business Writing | 3 |
| Computer Networks | 3 |
| Elective-III | 3 |

| Semester 8 | |
|-------------------------|---|
| Final Year Project - II | 3 |
| Professional Practices | 2 |
| Robotics Machine Design | 3 |
| Elective-VI | 3 |
| Elective-VII | 3 |



Associate Degree

in Computer Science

| Course Duration | 2 Years |
|--------------------|---------|
| Semesters | 4 |
| Total Credit Hours | 72 |

Eligibility

Intermediate or Equivalent with minimum 50% marks

| Semester 3 | |
|--|--|
| Social Entrepreneurship Program Data Structures & Algorithms | |
| Digital Marketing | |
| Elective-I Probability & Statistics | |
| Software Engineering | |

Semester 4

Environmental Science

Final Project & Viva

Foreign Language

Advance Computer Programming

Mobile Application Development

Semester 1 Calculus & Analytical Geometry 3 English Composition & Comprehension 3 Ideology and Constitution of Pakistan 2 Introduction to Information & 4 Communication Technologies Islamic Studies 2 Programming Fundamentals 4

| Semester 2 | |
|------------------------------|---|
| Database Systems | |
| Digital Logic Design | |
| Object Oriented Programming | |
| Technical & Business Writing | ; |
| Web Application Development | ; |
| | |

| Freelancing Technopreneurship | 3 3 |
|----------------------------------|-----|
| List of Electives | |
| Game Development | 3 |

Note: Students with a non-mathematical background must fulfill prerequisite requirements by completing Pre-Calculus and Pre-Algebra courses within their initial two semesters.

Associate Degree

in Web Design and Development

| Course Duration | 2 Years |
|--------------------|---------|
| Semesters | 4 |
| Total Credit Hours | 71 |

Eligibility

Intermediate/Equivalent - Pass

| Semester 3 | |
|---------------------------------|---|
| Advance Web | ; |
| Social Entrepreneurship Program | ; |
| Data Structures & Algorithms | 4 |
| Elective-I | ; |
| Probability & Statistics | ; |
| Software Engineering | ; |

| Semester 1 | |
|---------------------------------------|---|
| Calculus & Analytical Geometry | 3 |
| English Composition & Comprehension | 3 |
| Ideology and Constitution of Pakistan | 2 |
| Introduction to Information & | 4 |
| Communication Technologies | |
| Islamic Studies | 2 |
| Programming Fundamentals | 4 |

| Semester 2 | |
|------------------------------|--|
| Database Systems | |
| Graphic Designing | |
| Object Oriented Programming | |
| Technical & Business Writing | |
| Web Application Development | |
| | |

| Semester 4 | |
|------------------------------|---|
| Advance Computer Programming | 3 |
| Environmental Science | 3 |
| Final Project & Viva | 3 |
| Foreign Language | 2 |
| Freelancing | 3 |
| Technopreneurship | 3 |

| List of Electives | |
|--|---|
| Game Development Mobile Application Development | 3 |

Associate Degree

in Cyber Security

| Course Duration | 2 Years |
|--------------------|---------|
| Semesters | 4 |
| Total Credit Hours | 72 |

Eligibility

Intermediate or Equivalent

Semester 3 Social Entrepreneurship Program Data Structures & Algorithms (Lab) Elective-I 3 Information Security & Cryptography Probability & Statistics Software Engineering

Semester 4

Ethical Hacking

Final Project & Viva

Foreign Language

Technopreneurship

List of Electives Game Development

Mobile Application Development

Freelancing

Environmental Science

Semester 1 Calculus & Analytical Geometry English Composition & Comprehension 3 2 Ideology and Constitution of Pakistan 4 Introduction to Information & Communication Technologies (Lab) 2 Programming Fundamentals (Lab)

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| Note: Students with a non-mathematical background must fulfill prerequisite requirements by completing |
|--|
| Pre-Calculus and Pre-Algebra courses within their initial two semesters. |

Associate Degree

in Gaming & Multimedia

| Course Duration | 2 Years |
|--------------------|---------|
| Semesters | 4 |
| Total Credit Hours | 71 |

Eligibility

Intermediate or Equivalent

| Semester 1 | |
|---------------------------------------|---|
| Calculus & Analytical Geometry | ; |
| English Composition & Comprehension | ; |
| Ideology and Constitution of Pakistan | : |
| Introduction to Information & | |
| Communication Technologies | |
| Islamic Studies | : |
| Programming Fundamentals | |
| | |

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| Semester 2 | |
|------------------------------|---|
| 3D Modeling & Animation | 3 |
| Database Systems | 4 |
| Object Oriented Programming | 4 |
| Technical & Business Writing | (|
| Web Application Development | (|
| | |

| Semester 4 | |
|-----------------------------|---|
| Environmental Science | 3 |
| Final Project & Viva | 3 |
| Foreign Language | 2 |
| Freelancing | 3 |
| Multimedia Systems & Design | 3 |
| Technopreneurship | 3 |