ABASYN UNIVERSITY

Passion to Design Futures

www.abasynisb.edu.pk

PROSPECTUS

2023-24

This prospectus presents a brief overview of all the academic programs offered at the Abasyn University, Islamabad Campus. The prospectus shows the overall structure, duration and fees of the academic programs. Candidates who wish to seek admission at Abasyn University are advised to read this prospectus carefully. For further details, candidates are advised to visit our campus, website or call our Admission Office at:

Islamabad Campus

Park Road, Chak Shahzad,
Islamabad, Pakistan.
Email: admissions@abasynisb.edu.pk
Website: abasynisb.edu.pk
UAN: 051-111 222 796
Ph: 051-8438320 & 8438321
Cell No: 0300-918 9006, 0331-989 0066
Fax: 051-843 8325

Main Campus Peshawar

Ring Road (Charsadda Link),
Peshawar, Pakistan.
Email: admissions@abasyn.edu.pk
Website: abasyn.edu.pk
UAN: 091-111 222 796
Ph: 091-2247264 & 2582835
Cell No: 0323-9555847
Fax: 091-2248675

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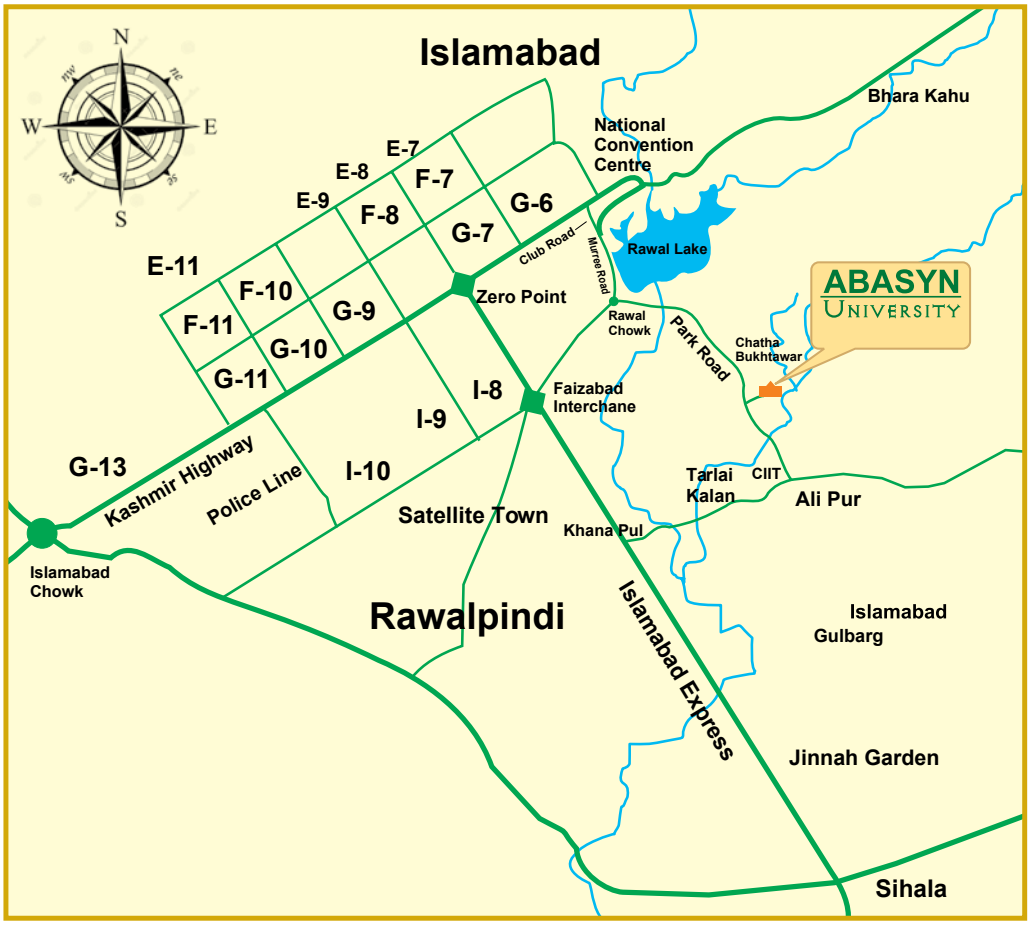
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Satellite Town
Zero Point
National Convention Centre
Club Road
Murree Road
Rawal Lake
Rawal Chowk
Park Road
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ABASYN UNIVERSITY
Faizabad Interchange
Bhara Kahu
Tarlai Kalan
CIIT
Ali Pur
Khana Pul
Islamabad Chowk
Rawalpindi
Islamabad Express
Islamabad Gulbarg
Jinnah Garden
Sihala


ABASYN UNIVERSITY

Message from the Chancellor

Education is the core value of a nation, and the function of an educational institution is not only to take care of an individual's academic growth but also to take charge of his/her personal, social, mental, psychological, and spiritual maturity for overall learning and transformation. Only an institution which takes care of all these dynamics can shape a true scholar and a true professional, and Abasyn University is one of its kind in this realm.

Abasyn University, established in 2007 through an Act of Provincial Assembly, has now emerged as a sustainable organization with the grace of Almighty and the committed efforts of the faculty and the management. Within a short span of time, the university has made a number of achievements including a thriving campus at Islamabad.

This is heartening to know that apart from excelling in academic standards,students of Abasyn University actively participate in diverse socio-cultural activities of high standards such as tree plantation, traffic education, blood donation, youth awareness, and community service campaigns, drives, and projects to nurture exceptional values of social importance. The University, energized by its distinguished faculty and strengthened by its brilliant students, now stands in the highest echelons of education in the country and strives to forge new paths for a brighter tomorrow of Pakistan.

I pray to Allah to crown our endeavours with success!

Dr. Muhammad Imran Ullah

Message from the
Head of Campus

Transformation from school and college set-up into a university marks the beginning of a focused yet ceaseless endeavor. The decision on choice of a university requires great care in the light of aptitude, relevance, scope, and career prospects. I find it heartening to fill you in on the academic and professional culture of the Abasyn University that promises a balanced combine of attributes one may consider in the choice of seat for higher and professional education. At Abasyn one finds all the three stakeholders—management, faculty, and students—engaged in a ceaseless endeavour to set new standards and seek new horizons in higher education and to produce professionals with a new orientation who can stimulate and lead the industrial transformation of the country.

Abasyn University is a compact, close-knit community of highly skilled andambitious professionals with student-centric teaching approach, congenial atmosphere, objective-based learning environment and supportive arrangements for co-curricular and extracurricular activities which motivatestudents to learn and grow in academics. At both the campuses (Peshawar and Islamabad), you will find the academic staff with substantial industry, research and teaching experience. The curriculum of all academic disciplines is designed in collaboration with particular industry advisers to be at parwith the current global requirements. Abasyn is a forward-looking University working in the new economic environment of the early twenty-first century with an eye for globalization, innovation and entrepreneurship as the key features of this new environment. Keeping this in view, Abasyn integrates emerging international issues/experiences/standards into its degree programs wherever required and prioritizes the grooming and training of mind over cramming it with facts and information. The University believes in expanding the intellectual horizons of its students rather than merely focusing on their technical skills. The management and faculty strive to imbibe in the students the desire to question established notions, improve upon cherished traditions, and broaden the scope of social and academic values.

Abasyn University has a vision based on five parameters – quality teaching, research, internationalization, industrial liaison, and career & job placement. Following this vision the university has also signed MoUs with a number of Turkish Universities to extend its academic circle to European countries.

Graduating from Abasyn means growing curiosity, innovation, creativity, and excellence. For we not only emphasize on critical thinking and intellectual analysis but also nurture academic excellence, promote social inclusiveness, foster a sense of civility, protect academic freedom, cultivate individual integrity, instill academic honesty, advocate accountability, encourage ethical standards, allow enriching learning opportunities, and try to direct you to a gratifying career by teaching you to live by example.

I hope you enjoy your studies at the University.

Welcome to
Abasyn University

We offer:

- Strong student support facilities
- Accredited and approved academic programs
- Lively and stimulating environment for growth
- State-of-the-art lecture rooms, laboratories, library and IT facilities
- World-class research facilities and collaboration with partner universities
- Resources to help develop study skills and produce original work
- Faculty involvement in industrial research

Abasyn University

Abasyn University Peshawar is chartered by the Government of Khyber Pakhtunkhwa (KPK) and recognized by the Higher Education Commission (HEC), Pakistan. Abasyn University was the only University in KPK which was awarded category 'W' at the inception which was the highest category to be awarded to any institution in the old ranking system by HEC. By the grace of Allah and the support of sponsors and staff, HEC has upgraded category 'W' to 'W3' in the new ranking system. Abasyn University offers degree programs in various disciplines including Engineering, Computing, Business Administration, Pharmacy, Life Sciences, Rehabilitation & Health Scieces, Education and Technology. National Computing Education Accreditation Council (NCEAC), HEC has accredited BS in Computer Science and BS in Software Engineering programs offered by the University. The University also offers BE in Electrical Engineering and BE in Civil Engineering programs accredited by the Pakistan Engineering Council (PEC). The University has been accredited by the Pharmacy Council of Pakistan (PCP) to run Pharm-D program.

Abasyn University

Islamabad Campus

HEC granted NOC via letter No. 16-64/HEC/A&A/2010/401 to Abasyn University to open its campus at Islamabad. The University has established state of art facilities in Chak Shahzad Islamabad for the campus. Highly qualified teaching and non teaching staff have been hired. The campus has also established fully equipped labs with state of the art technologies and tools. The campus has also developed a well stocked library which has access to digital research databases, e-journals, e-books and e-reports.

Vision Statement

Aspiring for a transformative impact on society through academic excellence and growth.

Mission Statement

To build a nationwide knowledge community through quality education, relevance, critical thinking, creativity, research, and high sense of social responsibility.

Aims and Objectives of the University

The main objective of the university is to provide high quality, comprehensive educational, training and research opportunities that produce highly qualified graduates and responsible citizens who are able to meet the needs of all sectors of human activity. The University offers to its students relevant qualifications, including professional training, which combine high-level knowledge and skills, using courses and content continually tailored to the present and future needs of the society.

General Goals of the University are:

a. To pursue excellence in education and research by developing relevant curriculum.

b. To produce graduates who possess high quality abilities to contribute towards the development of the society.

c. To encourage students to challenge current theories and practices.

d. To encourage students to break new grounds and cultivate leadership quality.

e. To develop strong interpersonal and communication skills in its graduates.

Benefits to the Students

Abasyn University aims to provide relevant education to its students which will provide many career opportunities to them.

In fulfilling its mission, Abasyn University cultivates following qualities in its students:

a. A strong foundation of knowledge and skills,

b. A research culture which they will use in practical life,

c. An understanding of mutual respect for all ethnic and cultural groups,

d. A sense of being responsible citizens of the society.


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Academic Departments and Programs at

Islamabad Campus

- Department of Computing
  - BS Computer Science (BSCS)
  - BS Software Engineering (BSSE)
- Department of Electrical Engineering
  - BE Electrical Engineering (BEEE)
- Department of Civil Engineering
  - BE Civil Engineering (BECE)
- Department of Pharmacy
  - Doctor of Pharmacy (Pharm-D)
- Department of Life Sciences
  - BS Medical Lab Technology (BS MLT)
- Department of Rehabilitation & Health Sciences
  - Doctor of Physical Therapy (DPT)
  - BS Human Nutrition & Dietetics (BS HN&D)
  - BS Radiology Technology (BS RT)
  - BS Orthotics & Prosthetic (BS O&P)
  - BS Vision Sciences (Optometry)
  - B.S Operation Theatre Technology
- Department of Management & Social Sciences
  - Bachelor of Business Administration (BBA)
  - BS (Accounting & Finance)
  - BS -Digital Marketing (BS-DM)
  - BS English
  - BS Psychology
  - BS Tourism and Hospitality Management
- Department of Mathematics & Statistics
  - BS Mathematics
  - BS Statistics
- Department of Electronics
  - BS Electronics
- Department of Technology
  - B.Tech (Hons.) Civil
  - B.Tech (Hons.) Electrical
- Graduate Programes
  - MS Computer Sciences (MSCS)
  - MS Data Science (MSDS)
  - MS Electrical Engineering (MSEE)
  - MS Civil Engineering
  - MS Project Management (MSPM)
  - M.Phil. Microbiology
  - MS Biochemistry


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UNDERGRADUATE
PROGRAMS

Department of Computing

The digital age has transformed the world and the workforce. As a result, computing related disciplines and technologies have become an essential part of our daily life activities. Keeping in view the digital transformation and an increasing demand of computing professionals in 21st century, the Department of Computing was established in 2012 with a vision of implanting a metamorphic thrust in Computer Science and Software Engineering, endorsing excellence in education, research and creativity. The department has a well-developed infrastructure including spacious lecture halls equipped with the modern audio-visual supports and well-resourced computer labs. Highly qualified and competent faculty serves the department and guides the students to achieve their educational goals. The academic progress of the students is monitored throughout the degree program with a viewpoint of continuous improvement to achieve an ultimate goal of converting them into graduates having in-depth knowledge and skills coupled with a sense of professional and social responsibility.

BS Computer Science (BSCS)

The mission of the Bachelor of Computer Science is to provide quality education and equip students with technical and transferable skills that prepare socially and ethically responsible computer science graduates committed to professional development and growth

Program Educational Objectives

The PEOs are focused on to produce BSCS graduates who:

1. Demonstrate in-depth knowledge and technical skills to be a successful computer science professional in diverse career paths.
2. Demonstrate communication and interpersonal skills and function as an individual or team member.
3. Practice IT profession in an ethical, moral, and socially responsible manner.
4. Engage in life-long learning, graduate studies, research, or professional development to enhance their professional and technical expertise.

Program Learning Outcomes

By the time of graduation, the program enables students to:

1. Academic Education: Completion of an accredited program of study designed to prepare graduates as computing professionals
2. Knowledge for Solving Computing Problems: Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements
3. Problem Analysis: Identity, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines
4. Design/ Development of Solutions: Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and

environmental considerations

5. Modern Tool Usage: Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations
6. Individual and Team Work: Function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings
7. Communication: Communicate effectively with the computing community and with society at large about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions
8. Computing Professionalism and Society: Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practice
9. Ethics: Understand and commit to professional ethics, responsibilities, and norms of professional computing practice
10. Life-long Learning: Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional

Semester Plan

Semester I

Code	Course Title	CrHrs	Pre-Req.
CS106	Introduction to Computer Programming	3+1	none
CS100	Introduction to Computing	2+1	none
MT112	Calculus-I	3+0	none
SS104	English-I	3+0	none
NS201	Applied Physics	2+1	none
SS108	Islamic Studies	2+0	none
	Total	18	

Semester II

Code	Course Title	CrHrs	Pre-Req.
CS200	Object Oriented Programming	3+1	CS106
MT114	Calculus-II	3+0	MT112
SS203	English-II	3+0	SS104
EE200	Digital Logic Design	2+1	NS201
SE242	Software Engineering	3+0	none
	Total	16	

Semester III

Code	Course Title	CrHrs	Pre-Req.
CS251	Computer Organization and Assembly Language	2+1	EE200
SS118	Pakistan Studies	2+0	none
CS210	Data Structures and Algorithms	3+1	CS200
MT221	Linear Algebra	3+0	MT114
MGxxx	Social Science Elective-I	3+0	none
MGxxx	Social Science Elective-II	2+0	none
	Total	17	

Semester IV

Code	Course Title	CrHrs	Pre-Req.
CS242	Computer Architecture	3+0	CS251
CS385	Database Management Systems	3+1	CS210
CS304	Design and Analysis of Algorithms	3+0	CS210
CSxxx	Domain Elective-1	3+0	none
CSxxx	Domain Elective-2	3+0	none
	Total	16	

Semester V

Code	Course Title	CrHrs	Pre-Req.
CSxxx	Advance Database Management System	2+1	CS385
CS432	Human Computer Interaction	3+0	SE242
CS313	Operating System Concepts	2+1	CS251
CS310	Theory of Automata	3+0	none
MT201	Discrete Structures	3+0	MT221
CSxxx	Domain Elective-3	3+0	none
	Total	18	

Semester VI

Code	Course Title	CrHrs	Pre-Req.
SS211	English-III	3+0	SS203
MT301	Statistics and Probability	3+0	none
CS401	Compiler Construction	2+1	CS310
CSxxx	Domain Elective-4	3+0	none
CS321	Computer Networks	2+1	none
CSxxx	Professional Practices	2+0	none
	Total	17	

Semester VII

Code	Course Title	CrHrs	Pre-Req.
SSxxx	Civic and Community Engagement	2+0	none
CSxxx	Domain Elective-5	3+0	none
CSxxx	Domain Elective-6	3+0	none
CS307	Artificial Intelligence	2+1	MT201
CS445	Parallel and Distributed Computing	3+0	none
CS499	FYP-1	0+3	none
	Total	17	

Semester VIII

Code	Course Title	CrHrs	Pre-Req.
CS499	FYP-II	0+3	CS499
CS390	Information Security	2+1	CS321
MG404	Entrepreneurship	2+0	none
CSxxx	Domain Elective-7	3+0	none
	Total	12	
	Degree Total	**130**	

List of Electives

Code	Title	CrHrs	Code	Title	CrHrs
CS315	Data Warehousing	3	CS208	Modern Programming Languages	3
CS316	Data Mining	3	CS334	Big-Data Processing	3
CS317	Object Oriented Database Systems	3	CS335	Cloud Computing	3
CS338	Management Information System	3	CS424	Machine Learning	3
CS433	Graph Databases	3	CS411	Computer Vision	3
CS407	e-Commerce/Business	3	CS412	Natural Language Processing	3
CS217	Visual Programming	3	CS413	Web Engineering	3
CS375	Mobile Application Development	3	CS414	Semantic Web	3
CS428	Network Security and Cryptography	3	CS421	Web Security	3
CS319	Network Simulation	3	CS221	Web Programming Language	3
CS463	Artificial Neural Network	3	CS494	Special Topics in Computer Science	3
CS432	Human Computer Interaction	3	CS443	Digital Image Processing	3

BS Software Engineering (BSSE)

The mission of the Bachelor of Software Engineering is to provide quality education and equip students with technical and transferable skills that prepare socially and ethically responsible software engineering graduates committed to professional development and growth.

Program Education Objectives

The PEOs are focused on to produce BSCS graduates who:

1. Demonstrate in-depth knowledge and technical skills to be a successful computer science professional in diverse career paths.
2. Demonstrate communication and interpersonal skills and function as an individual or team member.
3. Practice IT profession in an ethical, moral, and socially responsible manner.
4. Engage in life-long learning, graduate studies, research, or professional development to enhance their professional and technical expertise.

Program Learning Outcomes

By the time of graduation, the program enables students to:

1. **Academic Education:** Completion of an accredited program of study designed to prepare graduates as computing professionals
2. **Knowledge for Solving Computing Problems:** Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements
3. **Problem Analysis:** Identity, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines
4. **Design/ Development of Solutions:** Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations
5. **Modern Tool Usage:** Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations
6. **Individual and Team Work:** Function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings
7. **Communication:** Communicate effectively with the computing community and with society at large about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions
8. **Computing Professionalism and Society:** Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practice
9. **Ethics:** Understand and commit to professional ethics, responsibilities, and norms of professional computing practice
10. **Life-long Learning:** Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional

Semester plan

Semester I

Code	Course Title	CrHrs	Pre-Req.
CS106	Introduction to Computer Programming	3+1	none
CS100	Introduction to Computing	2+1	none
MT112	Calculus-I	3+0	none
SS104	English-I	3+0	none
NS201	Applied Physics	2+1	none
SS108	Islamic Studies	2+0	none
	Total	18	

Semester II

Code	Course Title	CrHrs	Pre-Req.
CS200	Object Oriented Programming	3+1	CS106
MT114	Calculus-II	3+0	MT112
SS203	English-II	3+0	SS104
EE200	Digital Logic Design	2+1	NS201
SE242	Software Engineering	3+0	none
	Total	16	

Semester III

Code	Course Title	CrHrs	Pre-Req.
SS118	Pakistan Studies	2+0	none
SE253	Software Requirements Engineering	3+0	SE242
CS210	Data Structures and Algorithms	3+1	CS200
MT221	Linear Algebra	3+0	MT114
MGxxx	Social Science Elective-I	3+0	none
CS251	Computer Organization and Assembly Language	2+1	EE200
	Total	17	

Semester IV

Code	Course Title	CrHrs	Pre-Req.
SE317	Software Design & Architecture	2+1	SE253
MGxxx	Social Science Elective-II	2+0	none
CS385	Database Management Systems	3+1	CS210
CSxxx	Domain Elective-1	3+0	none
CS304	Design and Analysis of Algorithms	3+0	CS210
	Total	16	

Semester V

Code	Course Title	CrHrs	Pre-Req.
CS432	Human Computer Interaction	3+0	SE242
SE350	Software Construction and Development	2+1	SE317
SE321	Software Quality Engineering	3+0	SE242
CSxxx	Domain Elective-2	3+0	none
MT201	Discrete Structures	3+0	MT221
CS313	Operating System Concepts	2+1	CS251
	Total	18	

Semester VI

Code	Course Title	CrHrs	Pre-Req.
SS211	English-III	3+0	SS203
MT301	Statistics and Probability	3+0	none
CSxxx	Domain Elective-3	3+0	none
CSxxx	Domain Elective-4	3+0	none
CS321	Computer Networks	2+1	none
CSxxx	Professional Practices	2+0	none
	Total	17	

Semester VII

Code	Course Title	CrHrs	Pre-Req.
SSxxx	Civic and Community Engagement	2+0	none
CSxxx	Domain Elective-5	3+0	none
CSxxx	Domain Elective-6	3+0	none
CS307	Artificial Intelligence	2+1	MT201
SE424	Software Project Management	2+1	SE242
CS499	FYP-1	0+3	none
	Total	17	

Semester VIII

Code	Course Title	CrHrs	Pre-Req.
CS499	FYP-II	0+3	CS499
CS390	Information Security	2+1	CS321
MG404	Entrepreneurship	2+0	none
CSxxx	Domain Elective-7	3+0	none
	Total	11	
	Degree Total	**130**	

List of Elective Courses

Code	Title	CrHrs
SE401	Secure Software Development	3
SE426	Software Testing	3
SE300	Object Oriented Software Engineering	3
SE401	Software Metrics	3
SE450	Design Patterns	3
CS421	Web Security	3
CS309	Distributed Database Systems	3
CS315	Data Warehousing& Data Mining	3
CS221	Web Programming Language	3

Code	Title	CrHrs
CS217	Visual Programming	3
CS375	Mobile Application Development	3
CS443	Digital Image Processing	3
CS334	Big-Data Analytics	3
CS424	Machine Learning	3
CS412	Natural Language Processing	3
CS208	Modern Programming Language	3
CS463	Artificial Neural Network	3
CS494	Special Topics in Software Engineering	3

BS Artificial Intelligence (BSAI)

The Department of Computing offers a 4-year BSAI program that follows a skill-based curriculum accredited by the National Computing Education and Accreditation Council (NCEAC). This curriculum focuses on providing students with practical skills and knowledge required to excel as AI professionals in today's rapidly evolving technological landscape.

The BSAI program integrates theoretical foundations with hands-on applications, allowing students to develop a robust skill set. The curriculum emphasizes the acquisition of practical skills that are directly applicable to real-world scenarios. Through a variety of projects and practical assignments, students gain experience in analyzing and solving complex problems using AI techniques.

To further enhance practical learning, the curriculum facilitates internships, enabling students to gain firsthand experience in applying AI methodologies to tackle real-world challenges. This experiential learning opportunity enhances their understanding of industry practices and strengthens their skill set.

Eligibility Criteria

The minimum requirements for admission in an undergraduate degree program in Computer Science are as follows:

1. At least 50% marks in Intermediate (HSSC) examination with Mathematics or equivalent qualification with Mathematics certified by IBCC. OR
2. At least 50% marks in Intermediate (HSSC) examination with pre-Medical or equivalent qualification certified by IBCC.

a. Deficiency: Students with pre-medical, must have to pass deficiency courses of Mathematics of 6 credit hours in first two semesters.

Program Education Objectives

The Program Educational Objectives (PEOs) are focused on to produce BSAI graduates who:

1. Demonstrate in-depth knowledge and technical skills to be a successful artificial intelligence professional in diverse career paths.
2. Demonstrate communication and interpersonal skills and function as an individual or team member.
3. Practice IT profession in an ethical, moral, and socially responsible manner.
4. Engage in life-long learning, graduate studies, research, or professional development to enhance their professional and technical expertise.

Program Learning Outcomes

The Program Learning Outcomes (PLOs) broadly describe the knowledge, skills and behaviors the students acquire in their program of study that are intended to foster the achievement of Program Educational Objectives (PEOs). By the time of graduation, the program enables students to:

1. Academic Education: Completion of an accredited program of study designed to prepare graduates as computing professionals.
2. Knowledge for Solving Computing Problems: Apply knowledge of computing fundamentals, knowledge of a computing specialization, and mathematics, science, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.
3. Problem Analysis: Identity, formulate, research literature, and solve complex computing problems reaching substantiated conclusions using fundamental principles of mathematics, computing sciences, and relevant domain disciplines.
4. Design/ Development of Solutions: Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
5. Modern Tool Usage: Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations.
6. Individual and Team Work: Function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings.
7. Communication: Communicate effectively with the computing community and with society at large about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.
8. Computing Professionalism and Society: Understand and assess societal, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practice.
9. Ethics: Understand and commit to professional ethics, responsibilities, and norms of professional computing practice.
10. Life-long Learning: Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional.

Department of Electrical Engineering

The Department of Electrical Engineering is one of the most prestigious department committed to providing high quality education and research. The department is designed and developed along the modern lines which are tailored to impart and strengthen the students' knowledge and skills in Electrical Engineering and its related specialties. The department is equipped with qualified faculty and state of the art laboratories. The department offers a 4-year bachelor program in Electrical Engineering (BEEE) to meet the needs of the country. The BEEE program is accredited by Pakistan Engineering Council (PEC) under Outcome Based Education (OBE) system. The department also offers MS program in Electrical Engineering.

BE Electrical Engineering (BEEE)

Since launching of the program in Fall 2012, BEEE is progressing rapidly to become a promising program in developing professional electrical engineers. The department has a capacity to accommodate 160 undergraduate students. EE labs are well equipped with the state-of-the-art equipment for its undergraduate program.

The BEEE program is designed to produce quality professional engineers with abilities to design, manage and operate electrical engineering-based projects. The program effectively provides a strong foundation for those wishing to pursue a career in electrical engineering through a diverse range of heoretical knowledge and practical skills. The program is based on solid foundations of mathematics and sciences and hands on training in well-equipped labs augmented by industrial visits and study tours.

Program Mission

The mission of the Bachellors in Electrical Engineering Program is to "to provide quality education, strive to impart critical thinking and creativity using latest tachenologies adhering to a sense of social responsibility and team work skills.

Program Educational Objectives

The graduates of BEEE program are expected to:

1. Be competent engineers who exhibit theoretical and practical knowledge in industry and/or academia.
2. Practice engineering in an ethical and socially responsible manner.
3. Demonstrate interpersonal and management skills and engage in professional growth.

Program Learning Outcomes

The graduates of Electrical Engineering program will attain the following attributes:

1. Engineering Knowledge: An ability to apply knowledge of mathematics, science and engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
2. Problem Analysis: An ability to identify, formulate, research literature, and analyze complex engineering problems

reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

3. Design/Development of Solutions: An ability to design solutions for complex engineering problems and design systems, components or processes that meet the specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
4. Investigation: An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.
5. Modern Tool Usage: An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling to complex engineering activities, with an understanding of the limitations.
6. The Engineer and Society: An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.
7. Environment and Sustainability: An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.
9. Individual and Team Work: An ability to work effectively as an individual or in a team, on multifaceted and/or multidisciplinary settings.
10. Communication: An ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. Project Management: An ability to demonstrate management skills and apply engineering principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.
12. Lifelong Learning: An ability to recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

Semester Plan

Semester I

Code	Course	CrHrs	Pre- Requisite
EE112	Workshop Practice	0+1	None
SS108	Islamic Studies/ Ethics (for non-Muslims)	2+0	None
CS100	Introduction to Computing	1+1	None
MT101	Calculus & Analytical Geometry	3+0	None
NS111	Applied Physics	3+1	None
SS104	English-I (Functional English)	3+0	None

Semester II

Code	Course	CrHrs	Pre- Requisite
EE116	Linear Circuit Analysis	3+1	None
EE121	Engineering Drawing	0+1	None
CS114	Programming Fundamentals	3+1	CS100
MT118	Differential Equations	3+0	MT101
SS203	English-II (Communication Skills)	3+0	SS104
SS2xx	Humanities and Social Sciences Elective	3+0	None

Semester III

Code	Course	CrHrs	Pre- Requisite
EE200	Digital Logic Design	3+1	None
EE215	Electronic Devices & Circuits	3+1	EE116
EE204	Basic Civil Engineering	3+0	None
MT214	Complex Variables & Transforms	3+0	MT118
MT221	Linear Algebra	3+0	None

Semester IV

Code	Course	CrHrs	Pre- Requisite
EE213	Electrical Network Analysis	3+1	EE116
EE223	Signals & Systems	3+1	MT214
EE224	Electronic Circuit Design	3+1	EE215
CS210	Data Structures & Algorithms	3+1	CS114
SS118	Pakistan Studies	2+0	None

Semester V

Code	Course	CrHrs	Pre- Requisite
EE302	Introduction to Embedded Systems	3+1	CS114
EE311	Electromagnetic Field Theory	3+0	NS111
EE313	Probability Methods in Engineering	3+0	MT101
EE315	Electrical Machines	3+1	EE116
EE316	Digital Signal Processing	3+1	EE223

Semester VI

Code	Course	CrHrs	Pre- Requisite
EE321	Communication Systems	3+1	EE223
EE322	Linear Control Systems	3+1	EE223
EE324	Measurement & Instrumentation	3+1	EE215
EE411	Power Electronics	3+1	EE215
SS211	English-III (Technical Report Writing)	3+0	SS203

Semester VII

Code	Course	CrHrs	Pre- Requisite
EE312	Applied Thermodynamics	3+0	None
EE4xx	Technical Elective-I	3+1	None
EE4xx	Technical Elective-II	3+0	None
EE498	Senior Design Project-I	0+3	None
SS401	Research Methodology and Professional Ethics	3+0	None

Semester VIII

Code	Course	CrHrs	Pre- Requisite
EE421	Computer Communication Networks	3+1	EE321
EE434	Power System Analysis	3+0	EE213
EE499	Senior Design Project-II	0+3	None
MG435	Engineering Economics & Management	3+0	None
MG436	Entrepreneurship	2+0	None

List of Electives

Code	Title	CrHrs
EE411	Power Electronics	3+1
EE412	Digital Electronics	3+1
EE413	Solid State Devices	3+0
EE414	Industrial Electronics	3+0
EE422	Digital Communication	3+1
EE423	Wave Propagation and Antennas	3+1
EE424	Wireless and Mobile Communication	3+0
EE425	Transmission and Switching	3+0
EE431	Introduction to Power Engineering	3+0
EE432	Power Generation	3+1

Code	Title	CrHrs
EE4xx	Power Generation, Distribution and Utilization	3+1
EE434	Power System Analysis	3+0
EE435	Renewable Energy Systems	3+0
EE441	Computer Architecture	3+1
EE442	Digital System Design	3+1
EE443	Operating Systems	3+0
EE444	Artificial Intelligence	3+0

List of elective courses may be revised as per requirement.

Humanities and Social Sciences Electives

Code	Title	CrHrs
SS242	Professional Ethics	3+0
SS217	Sociology for Engineers	3+0
SS301	Critical Thinking	3+0
MG245	Organizational Behavior	3+0
SS234	Professional Psychology	3+0

Department of Civil Engineering

The BECE is a 4 years (8 semesters) program. The program is designed and developed along the modern lines which are tailored to impart and strengthen the students' knowledge in Civil Engineering and its related specialties. The education process at the department is based on Outcome Based Education (OBE) system which is focused at achieving specified outcomes in terms of individual student's learning as specified in Washington Accord. The department offers BE Civil Engineering Program which is accredited by Pakistan Engineering Council (PEC) under Outcome Based Education (OBE) system. The BECE program is designed to produce quality professional engineers with abilities to design, manage and operate civil engineering projects. The program effectively provides a strong foundation for those wishing to pursue a career in civil engineering through a diverse range of theoretical skills and practical experiences. The program is based on solid foundations of mathematics and sciences followed by hands on training in well-equipped labs augmented by industrial visits and study tours. BECE program envisages extensive outdoor training in engineering surveying in the field and camp. On job internship training is also hallmark of this program.

BE Civil Engineering (BECE)

The BECE is a 4 years (8 semesters) program. The program is designed and developed along the modern lines which are tailored to impart and strengthen the students' knowledge in Civil Engineering and its related specialties. The BECE program is designed to produce quality professional engineers with abilities to design, manage and operate civil engineering projects. The program effectively provides a strong foundation for those wishing to pursue a career in civil engineering through a diverse range of theoretical knowledge and practical skills. The program is based on solid foundations of mathematics and sciences followed by hands-on training in well-equipped labs augmented by industrial visits and study tours. The BECE program envisages extensive outdoor training in engineering surveying in the field and camp. On job internship training is also a hallmark of this program.

Program Mission

"To provide quality education in civil engineering fundamental, applications, innovation and skills that prepare competent graduates who pursue professional excellence with responsibility and effective societal contribution"

Program Educational Objectives

The Program Educational Objectives (PEOs) for the Civil Engineering Program describe accomplishments that graduates are expected to attain within four to five years after graduation. The PEO's of the program states that the graduates of BECE program are expected to

1. Demonstrate competence in civil engineering profession by applying indepth knowledge and technical skills with global, societal and sustainable perspectives.

2. Practice civil engineering with professional integrity and commitment to social and ethical responsibilities.
3. Demonstrate interpersonal and management skills in workplace.
4. Demonstrate engagement in enhancing professional skills and exhibit quest for professional development.

Program Learning Outcomes

The Program Learning Outcomes (PLOs) broadly describe the skills, knowledge, and behaviors the students acquire in their program of study. The PLOs of the BECE program have been adopted from the graduate attributes for engineers defined in the Pakistan Engineer Council (PEC) Outcome Based Assessment (OBA) Manual, 2014. The PLOs state that the graduates of Civil Engineering program will attain the following attributes for their professional career during their stay in the University:

1. Engineering Knowledge: An ability to apply knowledge of mathematics, science and engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
2. Problem Analysis: An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
3. Design/Development of Solutions: An ability to design solutions for complex engineering problems and design systems, components or processes that meet the specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
4. Investigation: An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.
5. Modern Tool Usage: An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling to complex engineering activities, with an understanding of the limitations.
6. The Engineer and Society: An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.
7. Environment and Sustainability: An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

9. Individual and Team Work: An ability to work effectively as an individual or in a team, on multifaceted and/or multidisciplinary settings.

10. Communication: An ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective instructions.

11. Project Management: An ability to demonstrate management skills and apply engineering principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.

12. Lifelong Learning: The ability to recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.






Semester Plan

Semester I

Code	Course Title	CrHrs	Pre- Requisite
CE112	Civil Engineering Materials	2+1	None
CE116	Basic Electrical & Mechanical Engineering	2+2	None
CE210	Civil Engineering Drawing	1+2	None
MT103	Applied Calculus	3+0	None
SS113	Functional English	2+0	None
SS118	Pakistan Studies	1+0	None
	Total	16	

Semester II

Code	Course Title	CrHrs	Pre- Requisite
CE111	Engineering Mechanics	3+1	None
CE215	Engineering Surveying	2+1	None
CE226	Engineering Geology	2+0	None
MT116	Applied Differential Equations	3+0	None
SS108	Islamic Studies	2+0	None
	Total	14	

Semester III

Code	Course Title	CrHrs	Pre- Requisite
CS115	Computer Programming	1+2	None
CE216	Mechanics of Solids-I	2+1	None
CE303	Civil Engineering Drawing and Graphics	1+2	CE210
CE314	Advance Engineering Surveying	2+1	CE215
MG434	Engineering Economics	2+0	None
	Total	14	

Semester IV

Code	Course Title	CrHrs	Pre- Requisite
CE201	Fluid Mechanics	3+1	None
CE213	Soil Mechanics	3+1	None
CE214	Structural Analysis-I	3+0	CE111
CE326	Construction Engineering	3+0	None
MT300	Numerical Analysis	3+0	None
	Total	17	

Semester V

Code	Course Title	CrHrs	Pre- Requisite
CE301	Advance Fluid Mechanics	3+1	CE201
CE320	Reinforced Concrete Design-I	3+1	None
CE324	Quantity & Cost Estimation	2+1	None
MT301	Probability & Statistics	2+1	None
SS201	Professional Ethics	2+0	None
SS204	Business Communication	2+0	None
	Total	18	

Semester VI

Code	Course Title	CrHrs	Pre- Requisite
CE306	Engineering Hydrology	2+1	None
CE317	Mechanics of Solids-II	2+1	CE216
CE318	Structural Analysis-II	3+0	CE214
CE319	Transportation Engineering-I	3+0	None
CE327	Construction Engineering	2+1	CE326
CE415	Reinforced Concrete Design-II	3+1	CE320
	Total	19	

Semester VII

Code	Course Title	CrHrs	Pre- Requisite
CE305	Environmental Engineering-I	2+1	None
CE330	Architecture & Town Planning	3+0	None
CE403	Geotechnical & Foundation Engineering	3+1	CE213
CE419	Transportation Engineering-II	3+1	CE319
CE498	Civil Engineering Project-I	0+3	None
MG403	Entrepreneurship	3+0	None
	Total	20	

Semester VIII

Code	Course Title	CrHrs	Pre- Requisite
CE406	Environmental Engineering-II	2+0	CE305
CE411	Geo-Informatics	1+1	None
CE424	Hydraulics & Irrigation Engineering	3+1	CE301
CE425	Steel Structures	3+0	None
CE499	Civil Engineering Project-II	0+3	CE498
MG295	Organizational Behavior	2+0	None
	Total	16	

Department of Pharmacy

Pharmacy is known as a lifesaving profession and is an important part of any healthcare system which makes pharmacy a much sought after profession. Keeping in view an increasing demand of pharmacy professionals, the Department of Pharmacy was established in 2015 with a vision of achieving excellence in imparting quality education and research. The department has a well-developed infrastructure including spacious lecture halls equipped with the latest audio-visual aids and well-equipped labs. A state-of-the-art library is available to instill into the students the quest for self-learning and to enhance their professional as well as general knowledge. Highly qualified and competent faculty serves the department and guides the students to achieve their educational goals. The academic progress of the students is monitored throughout the degree program with a viewpoint of continuous improvement to achieve an ultimate goal of converting them into graduates having in-depth knowledge and skills coupled with a sense of professional and social responsibility.

Doctor of Pharmacy (Pharm D)

The Department of Pharmacy offers a 5-year Doctor of Pharmacy (Pharm.D) program which is duly accredited by the Pharmacy Council of Pakistan (PCP). The department follows the latest HEC and PCP approved curriculum. The curriculum not only provides a solid foundation of the discipline but also equips the students with knowledge and skills required to practice as quality healthcare professionals. Along with the theory, the curriculum has practical work as a major component of the degree program. Training of the students in clinical pharmacy and hospital pharmacy at tertiary care hospitals, field trips for collection of medicinal plants and study tours to pharmaceutical industries are conducted as a part of the pharmacy curriculum. The Pharm.D graduates find positions in pharmaceutical industry, academia, drug regulatory authorities, and other healthcare sectors.

Program Mission

To produce competent pharmacy professionals through a contemporary curriculum emphasizing quality education, practical skills and critical thinking with a sense of ethical and social responsibility and continuous professional growth.

Program Educational Objectives

Program Educational Objectives (PEOs) are the attributes and abilities that the graduates are expected to demonstrate within four to five years of graduation. The PEOs stipulate the high-level program objectives and provide a broad framework to design program learning outcomes, curriculum and its provision.

The graduates of Pharm-D program are expected to:

1. Demonstrate excellence in profession through in depth knowledge and skills as pharmacists in pharmacy practice, industry, academia and research and development.

2. Demonstrate the strong ethical and professional values, critical thinking, and social and management skills.
3. Engage in continuous professional development and lifelong learning.

Program Learning Outcomes

The Program Learning Outcomes (PLOs) broadly describe the skills, knowledge, and behaviors the students acquire in their program of study. The PLOs are publicized and available on the university website, university notice boards, posters, and prospectus. Approved PLOs state that:

The Pharm.D program enables students to achieve the following attributes by the time of graduation:

1. **Professional Knowledge:** An ability to demonstrate sound knowledge of basic medical sciences, pharmaceutics, pharmaceutical chemistry, pharmacognosy and pharmacy practice.
2. **Professional Services:** An ability to apply professional knowledge in various disciplines of the profession like clinical, hospital, community, drug regulation, industry, academia and research and development.
3. **Design and Development:** An ability to design, develop and analyze selected dosage forms and drug delivery systems.
4. **Pharmaceutical Industry:** An ability to demonstrate knowledge of design, work flow of various departments, unit operations, equipments and processes used in a pharmaceutical manufacturing facility.
5. **Pharmaceutical care:** An ability to design, implement, evaluate, and modify patient-specific pharmaceutical care plan in consultation with patients and healthcare team to achieve health outcomes and improve patient's quality of life.
6. **Drug Safety:** An ability to identify, prevent, monitor, and manage drug interactions, adverse drug effects, contraindications and medication errors.
7. **Community Health Services:** An ability to perform compounding, dispensing, patient counseling and education, and to provide public health services.
8. **Distribution and Sale:** An ability to demonstrate an understanding of the systems for distribution, marketing and retail sale of medications and associated medical products.
9. **Management Skills:** An ability to apply pharmaceutical management principles to manage pharmaceutical projects from start to end as a team member or as an individual.
10. **Communication Skills:** Demonstrate effective interpersonal, oral and written communications skills to interact with healthcare professionals, patients and other stakeholders.
11. **Ethics:** A commitment to apply ethical principles, professional ethics, adhere to social responsibility, norms and comply with the laws of pharmaceutical practice.
12. **Lifelong Learning:** Recognize importance of, and pursue, lifelong learning and further the body of knowledge in the broader context of development of the profession.

Semester Plan

Semester I

Code	Course Title	CrHrs	Pre-Req.
PD101	Pharmaceutical Chemistry-IA (Organic)	3+1	None
PD102	Pharmaceutical Chemistry-IIA (Biochemistry)	3+1	None
PD103	Pharmaceutics-IA (Physical Pharmacy)	3+1	None
PD104	Physiology-A	3+1	None
PD105	Anatomy & Histology	3+1	None
SS103	English-A (Functional English)	3+0	None
	Total	23	

Semester II

Code	Course	CrHrs	Pre-Req.
PD123	Pharmaceutical Chemistry-IB (Organic)	3+1	None
PD126	Pharmaceutical Chemistry-IIB (Biochemistry)	3+1	None
PD127	Pharmaceutics-IB (Physical Pharmacy)	3+1	None
PD128	Physiology-B	3+1	None
SS124	English-B (Communication & writing skills)	3+0	None
	Total	19	

Semester III

Code	Course	CrHrs	Pre-Req.
PD201	Pharmaceutics-IIA (Dosage Forms Science)	3+1	None
PD202	Pharmacology and Therapeutics-IA	3+1	None
PD203	Pharmacognosy-IA (Basic)	3+1	None
PD204	Pharmaceutics-IIIA (Pharmaceutical Microbiology & Immunology)	3+1	None
SS108	Islamic Studies	2+0	None
MT211	Pharmacy Practice-IA (Pharmaceutical Mathematics)	3+0	None
	Total	21	

Semester IV

Code	Course	CrHrs	Pre-Req.
PD221	Pharmaceutics-IIB (Dosage Forms Science)	3+1	None
PD222	Pharmacology and Therapeutics-IB	3+1	None
PD223	Pharmacognosy-IB (Basic)	3+1	None
PD224	Pharmaceutics-IIIB (Pharmaceutical Microbiology & Immunology)	3+1	None
SS118	Pakistan Studies	2+0	None
MT226	Pharmacy Practice-IB (Bio-statistics)	3+0	None
	Total	21	

Semester V

Code	Course	CrHrs	Pre-Req.
PD301	Pathology	3+1	None
PD302	Pharmacology and Therapeutics-IIA	3+1	None
PD303	Pharmacognosy II-A (Advanced)	3+1	None
PD304	Pharmaceutical Chemistry-IIIA (Pharmaceutical Analysis)	3+1	None
PD305	Pharmacy Practice-IIA (Dispensing pharmacy)	3+1	None
	Total	20	

Semester VI

Code	Course	CrHrs	Pre-Req.
PD325	Pharmacology and Therapeutics-IIB	3+1	None
PD326	Pharmacognosy-IIB (Advanced)	3+1	None
PD327	Pharmaceutical Chemistry-IIIB (Pharmaceutical Analysis)	3+1	None
PD328	Pharmacy Practice-IIB (Community, Social & Administrative Pharmacy)	3+0	None
PD329	Pharmacy Practice-III (Computer and its Applications in Pharmacy)	3+1	None
	Total	19	

Semester VII

Code	Course	CrHrs	Pre-Req.
PD330	Pharmacy Practice-IVA (Hospital Pharmacy-I)	3+0	None
PD331	Pharmacy Practice-VA (Clinical Pharmacy-I)	3+1	None
PD332	Pharmaceutics-IVA (Industrial Pharmacy-I)	3+1	None
PD334	Pharmaceutics-VA (Biopharmaceutics & Pharmacokinetics-I)	3+1	None
PD335	Pharmaceutics-VIA (Pharmaceutical Quality Management-I)	3+1	None
	Total	19	

Semester VIII

Code	Course	CrHrs	Pre-Req.
PD401	Pharmacy Practice-IVB (Hospital Pharmacy-II)	3+0	None
PD402	Pharmacy Practice-VB (Clinical Pharmacy-II)	3+1	None
PD403	Pharmaceutics-IVB (Industrial Pharmacy-II)	3+1	None
PD404	Pharmaceutics-VB (Biopharmaceutics & Pharmacokinetics-II)	3+1	None
PD405	Pharmaceutics-VIB (Pharmaceutical Quality Management-II)	3+1	None
	Total	19	

Semester IX

Code	Course	CrHrs	Pre-Req.
PD430	Pharmaceutical Chemistry-IVA (Medicinal Chemistry-I)	3+1	None
PD431	Pharmacy Practice-VIA (Advanced Clinical Pharmacy-I)	3+1	None
PD432	Pharmaceutics-VIIA (Pharmaceutical Technology-I)	3+1	None
PD433	Pharmacy Practice-VIIA (Forensic Pharmacy- I)	3+0	None
PD434	Pharmacy Practice-VIIIA (Pharmaceutical Management & Marketing-I)	3+0	None
	Total	18	

Semester X

Code	Course	CrHrs	Pre-Req.
PD440	Pharmaceutical Chemistry-IVB (Medicinal Chemistry-II)	3+1	None
PD441	Pharmacy Practice-VIB (Advanced Clinical Pharmacy-II)	3+1	None
PD442	Pharmaceutics- VIIB (Pharmaceutical Technology-II)	3+1	None
PD443	Pharmacy Practice-VIIB (Forensic Pharmacy-II)	3+0	None
PD444	Pharmacy Practice-VIIIB (Pharmaceutical Management & Marketing-II)	3+0	None
	Total	18	

Department of Life Sciences

The Department of Life Sciences, one of the leading departments in Abasyn University Islamabad Campus, was established in 2014 with a vision of achieving excellence in imparting quality education and research. The department is committed to provide quality education to students to equip them with knowledge, leadership skills, ability to engage in life-long learning and professional integrity along with the strong sense of social responsibility. The department has a well-developed infrastructure including spacious lecture halls equipped with the latest audio-visual aids and well-equipped labs. Highly qualified and competent faculty serves the department and guides the students to achieve their educational goals. Memorandum of Understanding (MOUs) have been signed with different hospitals, diagnostic laboratories and research centers to enhance the clinical expertise of our students. The Department of Life Sciences offers BS-Microbiology, BS-Medical Lab Technology, BS Biochemistry, MS Biochemistry and M.Phil. Microbiology programs.

BS Medical Lab Technology (BSMLT)

Medical Laboratory Technology is a branch of medical science responsible for performing lab investigations relating to the diagnosis, treatment and prevention of diseases. Due to an ever-increasing demand of qualified medical lab technologist, the university offers a 4-year (8 semester) fulltime BS degree program in Medical Lab Technology (BSMLT). The program acquaints the students with the latest development in the field of medical lab technology and its related academic and applied aspects. It focuses on equipping students with knowledge and skills required to become a professional and competent medical lab technologist. The curriculum has been designed to train students in scientific rigor, technical know-how and reasoning skills. We believe in nurturing a multidisciplinary environment for students by offering a combination of social sciences and humanities education to broaden their scope of knowledge. Courses in logic and philosophy have been integrated to instill critical, interpretive, and behavioral skills in our students. The students are provided with the opportunities to work in hospitals and different laboratories to enhance their practical skills in advanced techniques and latest medical lab equipment. The faculty members of MLT are certified medical laboratory technologists with advanced degrees, varied clinical experiences and a diverse academic portfolio.

Program Educational Objectives

The BSMLT program aims to prepare the graduates who are expected to:

1. Demonstrate excellence in profession through in-depth knowledge and skills as a medical lab technologist in healthcare sectors, academia, and industry.

2. Demonstrate effective communication and interpersonal skills with high professional and ethical standards.

3. Engage in continuous pursuit of knowledge and lifelong learning.

Program Learning Outcomes

The Program Learning Outcomes (PLOs) broadly describe the knowledge, skills and behaviors the students acquire in their program of study that are intended to foster the achievement of Program Educational Objectives (PEOs).

By the end of the BSMLT program, the graduates will have the following attributes:

1. **Knowledge:** Demonstrate an understanding of the underlying scientific principles of laboratory testing, including technical, procedural, and problem-solving aspects.

2. **Skills:** Perform proficiently the full range of clinical laboratory tests in areas such as hematology, clinical chemistry, immunohematology, microbiology, serology/ immunology, coagulation, and molecular and other emerging diagnostics and participate in the evaluation of new techniques and procedures in the laboratory.

3. **Solving and Analytical Decision Making:** Evaluate and solve problems related to collection and processing of biological specimens for analysis and differentiate and resolve technical, instrument, and physiologic causes of problems or unexpected test results.

4. **Training Responsibilities:** Incorporate principles of educational methodologies in the instruction of laboratory personnel, other health care professionals, and consumers.

5. **Problem Solving:** Identify problems, explore and prioritize potential problem-solving strategies; and design and implement a viable solution.

6. **Management Skills:** Demonstrate management skills and apply medical lab technology principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.

7. **Communication Skill:** An ability to communicate effectively, orally and in writing, with a range of audience.

8. **Individual and Teamwork:** An ability to function effectively as an individual as well as a team member to accomplish a task

9. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of medical lab technology.

10. **Lifelong Learning:** Recognize importance of, and pursue, lifelong learning and further the body of knowledge in the broader context of development of the profession.

Semester Plan

Semester I

Code	Course Title	CrHrs	Pre-Req.
LT102	Human Physiology-I	3+1	None
LT103	Human Anatomy-I	3+1	None
LT107	Biochemistry-I	3+1	None
CS100	Introduction to Computing	2+1	None
SS104	English-I	3+0	None
SS108	Islamic Studies	2+0	None
	Total	20	

Semester II

Code	Course Title	CrHrs	Pre-Req.
LT112	Human Physiology-II	3+1	LT102
LT113	Human Anatomy-II	3+1	LT103
LT117	Biochemistry-II	3+1	LT107
LT207	Medical Microbiology-I (Non MLT)	2+1	None
SS118	Pakistan Study	2+0	None
SS203	English-II (Communication Skills)	3+0	SS104
	Total	17/20	

Semester III

Code	Course Title	CrHrs	Pre-Req.
LT201	General Pathology-I	2+1	None
LT202	General Pharmacology-I	2+1	None
LT203	Clinical Bacteriology	2+1	None
LT204	Hematology-I	2+1	None
LT205	Human Genetics	2+1	None
LT217	Medical Microbiology-II (Non MLT)	2+1	LT207
SS211	English-III (Technical Report writing)	3+0	SS203
	Total	18	

Semester IV

Code	Course Title	CrHrs	Pre-Req.
LT211	General Pathology-II	2+1	LT201
LT212	RBC Disorders	2+1	None
LT213	Clinical Virology and Mycology	2+1	None
LT214	Chemical Pathology	2+1	None
LT215	Behavioral Sciences	2+0	None
LT216	Hematology-II (Non MLT)	2+1	LT204
LT220	General Pharmacology-II	2+1	LT202
	Total	17	

Semester V

Code	Course Title	CrHrs	Pre-Req.
LT301	WBC and Platelets Disorders	2+1	None
LT302	Histopathology	2+1	None
LT304	Clinical Parasitology	2+1	None
LT305	Clinical Pathology	2+1	None
LT306	Biotechnology	3+0	
MT210	Biostatistics	3+0	None
	Total	18	

Semester VI

Code	Course Title	CrHrs	Pre-Req.
LT303	Medical Laboratory Instrumentations	2+1	None
LT308	Immunology & Serology	2+1	
LT310	Blood Banking	2+1	
LT313	Advances in Medical Laboratory Technology	1+2	
LT347	Bioinformatics	1+2	None
SS401	Research Methodology and Professional Ethics	3+0	SS401
	Total	18	

Semester VII

Code	Course Title	CrHrs	Pre-Req.
LT401	Medical Laboratory Management Skills	2+1	
LT402	Fundamentals of Infection Control	1+1	
LT403	Molecular Biology	2+1	
LT404	Epidemiology	2+0	
LT405	Systemic Diagnostic Bacteriology	2+1	
LT410	Cytology and Cytogenetics	2+1	
	Total	16	

Semester VIII

Code	Course Title	CrHr	Pre-Req.
LT408	Medical Sociology	2+1	
LT409	Bioethics	1+1	
LT490	Seminar	0+1	
LT499	Research Project	0+6	
	Total	12	

Department of Rehabilitation and Health Sciences

The Doctor of Physical Therapy program commenced in 2018 under the umbrella of Department of Life Sciences. Due to the exponential growth in number of students the Department of Rehabilitation and Health Sciences (DRHS) emerged as an independent department in September 2020. The department is committed in providing quality education such that students are equipped with research-based knowledge, leadership skills, ability to engage in life-long learning and professional integrity along with the strong sense of social responsibility and teamwork skills. The department has highly qualified faculty, state-of-the-art labs, and strong linkages with hospitals. Department is planning to offer an Outcome Based Education (OBE) which is focused on achieving specific quality attributes a student should have while progressing through the degree program. The Department currently offers Doctor of Physical Therapy (DPT), Bachelor of Sciences in Human Nutrition and Dietetics (BSHND) and Bachelor of Sciences in Radiology Technology (BSRT) programs.

Doctor of Physical Therapy (DPT)

The Doctor of Physical Therapy is a 5 year (10 semesters) program. The physical therapy is an integral part of the modern healthcare system that focuses on the treatment of injury, deformity disability and neurological, musculoskeletal, cardiopulmonary conditions by physical methods. The main goal of the DPT program is to equip students with relevant knowledge, clinical skills, critical thinking and social responsibility. The program is a balanced mix of theory and practical experiences at foundation and advanced level. The DPT graduates will be able to assume responsible positions in national and international physical therapy setups, private or government multidisciplinary hospitals, rehabilitation centers, academia, sports complex and special education centers.

Program Educational Objectives

The graduates of DPT program are expected to:

1. Be competent physical therapists who exhibit theoretical knowledge and practical skills in hospital, rehabilitation centers and/or academia.
2. Practice physical therapy in an ethical and socially responsible manner.
3. Demonstrate interpersonal and management skills and engages in professional growth.

Program Learning Outcomes

The DPT program enables students to achieve, by the time of graduation:

1. An ability to demonstrate in-depth knowledge of the basic and clinical sciences relevant to physical therapy, both in their fundamental context and in their application to the discipline of physical therapy.

2. An ability to exhibit professional conduct and behaviors that are consistent with the legal and ethical practice of the profession.
3. An ability to demonstrate compassion, integrity, and respect for differences, values, and preferences in all interactions with patients/clients, caregivers, other health care providers, and community at large.
4. An ability to communicate effectively, orally and in writing, with a range of audience.
5. An ability to understand, correlate and apply theoretical foundations of knowledge to the practice of physical therapy; evaluate and clarify new or evolving theory relevant to physical therapy.
6. An ability to function effectively as an individual as well as a team member to accomplish a task.
7. An ability to demonstrate mastery of entry level professional clinical skills. Provision of these services is based on the best available evidence and includes physical therapy examination, evaluation, diagnosis, prognosis, intervention, prevention activities, wellness initiatives and appropriate health care utilization.
8. An ability to use latest techniques, skills and tools necessary for the physical therapy services.
9. Recognition for the need of, and an ability to engage in continuing professional development.

Semester Plan

Semester I

Code	Course Title	CrHrs	Pre-Req.
DP103	Anatomy-I	3+1	None
DP104	Physiology-I	2+1	None
DP106	Kinesiology-I	2+1	None
SS104	English-I	3+0	None
SS118	Pakistan Studies	2+0	None
MT210	Biostatistics-I	3+0	None
	Total	18	

Semester II

Code	Course Title	CrHrs	Pre-Req.
DP113	Anatomy-II	3+1	DP103
DP114	Physiology-II	2+1	DP104
DP116	Kinesiology-II	2+1	DP106
SS108	Islamic Studies	2+0	None
SS203	English-II	3+0	SS104
MT320	Biostatistics-II	3+0	MT210
	Total	18	

Semester III

Code	Course Title	CrHrs	Pre-Req.
DP107	Biochemistry-I	2+0	None
DP201	Medical Physics	2+1	None
DP203	Anatomy-III	2+1	DP113
DP204	Physiology-III	2+1	DP114
DP206	Biomechanics & Ergonomics-I	3+0	None
SS211	English-III	3+0	SS203
	Total	17	

Semester IV

Code	Course Title	CrHrs	Pre-Req.
DP205	Health &Wellness	2+0	None
DP207	Biochemistry-II	2+1	DP107
DP209	Exercise Physiology	2+1	DP204
DP210	Molecular Biology & Genetics	2+0	None
DP213	Anatomy-IV	2+1	DP203
DP214	Biomechanics & Ergonomics-II	2+1	DP206
CS100	Introduction to Computer	2+1	None
	Total	19	

Semester V

Code	Course Title	CrHrs	Pre-Req.
DP301	Pathology & Microbiology-I	2+0	None
DP302	Pharmacology & Therapeutics-I	2+0	None
DP303	Physical Agent & Electrotherapy-I	2+1	None
DP304	Therapeutic Exercise & Techniques	2+1	None
DP319	Supervised Clinical Practice-I	0+3	None
SS222	Behavioral Sciences	2+0	None
	Total	15	

Semester VI

Code	Course Title	CrHrs	Pre-req.
DP311	Pathology & Microbiology-II	2+1	DP301
DP312	Pharmacology & Therapeutics-II	2+0	DP302
DP313	Physical Agent & Electrotherapy-II	2+1	DP303
DP315	Community Medicine & Rehabilitation	3+0	None
DP329	Supervised Clinical Practice-II	0+3	DP319
SS216	Introduction to Sociology	2+0	None
	Total	16	

Semester VII

Code	Course Title	CrHrs	Pre-Req.
DP339	Supervised Clinical Practice-III	0+3	DP329
DP401	Medicine-I	3+0	None
DP402	Surgery-I	3+0	None
DP403	Radiology & Diagnostic Imaging	2+1	None
DP404	Musculoskeletal Physical Therapy	2+1	None
DP405	Evidence Based Practice	2+1	None
	Total	18	

Semester VIII

Code	Course Title	CrHrs	Pre-Req.
DP349	Supervised Clinical Practice-IV	0+3	DP339
DP411	Medicine-II	3+0	DP401
DP412	Surgery-II	3+0	DP402
DP413	Neurological Physical Therapy	2+1	None
DP414	Scientific Inquiry & Research Methodology	2+1	None
DP415	Emergency Procedures & Primary Care In Physical Therapy	2+1	None
	Total	18	

Semester IX

Code	Course Title	CrHrs	Pre-Req.
DP431	Cardiopulmonary Physical Therapy	2+1	None
DP432	Prosthetics & Orthotics	2+0	None
DP433	Differential Diagnosis	3+0	None
DP434	Manual Therapy	2+1	None
DP435	Professional Practice	2+0	None
DP436	Integumentary Physical Therapy	2+0	None
DP437	Supervised Clinical Practice-V	0+3	DP349
	Total	18	

Semester X

Code	Course Title	CrHrs	Pre-Req.
DP419	Supervised Clinical Practice-VI	0+4	DP437
DP441	Obstetrics & Gynecological Physical Therapy	2+0	None
DP442	Pediatric Physical Therapy	2+0	None
DP443	Geriatric Physical Therapy	2+0	None
DP444	Sports Physical Therapy	2+0	None
DP449	Research Project	0+6	None
	Total	18	

BS Human Nutrition & Dietetics (BSHMD)

The BS Human Nutrition and Dietetics is a 4-year (8 semesters) degree program. Human Nutrition and Dietetics is the application of science of nutrition to the prevention and treatment of disease constituting important part of healthcare system that uplifts health status through better nutrition. The BSHND is focused on quality education, critical thinking, sense of social responsibility and teamwork skills. The program is a balanced mix of theory and practical experience at foundation and advance levels. The graduates of Human Nutrition and Dietetics program have the career opportunities in hospitals, private clinical setups, public health departments, restaurants and/or academia as nutrition consultants, public health nutritionists and food service administrators.

Program Educational Objectives

The graduates of HND program are expected to:

1. Be competent Dietitians who exhibit theoretical knowledge and practical skills in hospitals, private clinical setups, public health departments, restaurants and/or academia.
2. Practice clinical nutrition in an ethical and socially responsible manner.
3. Demonstrate interpersonal and management skills and engage in professional growth.

Program Learning Outcomes

The HND program enables students to achieve, by the time of graduation:

1. An ability to integrate concepts related to nutrition and health, food science and technology. Identify major sources of nutrients and develop dietary guidelines and recommendations.
2. An ability to exhibit professional conduct and behaviors that are consistent with the legal and ethical practice of profession.
3. An ability to demonstrate compassion, integrity, and respect for differences, values, and preferences in all interactions with patients/clients, caregivers, other health care providers, and community at large.
4. An ability to communicate effectively, orally and in writing, with a range of audience.
5. An ability to understand, correlate and apply theoretical foundations of knowledge to the practice of nutritional knowledge; evaluate and clarify new or evolving theory relevant to nutritional knowledge.
6. An ability to function effectively as an individual as well as a team member to accomplish a task.
7. An ability to demonstrate mastery of entry level professional clinical skills. Provision of these services is based on the best available evidence and includes examination, evaluation, diagnosis, intervention, prevention, wellness initiatives and appropriate diet management.
8. An ability to identify and select an appropriate method for measuring food consumption, calculate mean nutrient intake and population at risk.
9. Recognition for the need of, and an ability to engage in continuing professional development.

Semester Plan

Semester I

Code	Course Title	CrHrs	Pre-Req.
HN102	Fundamentals of Human Nutrition	3+0	None
HN103	Essentials of Food Science & Technology	2+1	None
HN105	Introductory Biochemistry	2+1	None
MT100	Mathematics	3+0	None
SS104	English-I	3+0	None
SS118	Pakistan Studies	2+0	None
	Total	17	

Semester II

Code	Course Title	CrHrs	Pre-Req.
HN106	Human Anatomy	2+1	None
HN107	Human Physiology-1	2+1	None
HN109	Macronutrients in Human Nutrition	3+0	None
SS108	Islamic Studies	2+0	None
SS203	English-II	3+0	SS104
SS216	Introduction to Sociology	3+0	None
	Total	17	

Semester III

Code	Course Title	CrHrs	Pre-Req.
HN104	Food Safety and Quality Management	2+0	None
HN108	Micronutrients in Human Nutrition	3+0	None
HN114	Human Physiology-II	2+1	HN107
HN204	Food Microbiology	2+1	None
HN205	Introductory Molecular Genetics	2+1	None
SS211	English-III	3+0	SS203
	Total	17	

Semester IV

Code	Course Title	CrHrs	Pre-Req.
HN201	General Pathology	2+1	None
HN207	Food Analysis	1+2	None
HN208	Assessment of Nutritional Status	2+1	None
HN209	Nutrition Through the Life Cycle	3+0	None
MT210	Bio-Statistics	2+1	MT100
CS100	Introduction to Computing	2+1	None
	Total	18	

Semester V

Code	Course Title	CrHrs	Pre-Req.
HN301	Dietetics-I	2+1	None
HN302	Nutrition and Psychology	3+0	None
HN303	Nutritional Education and Awareness	2+1	None
HN304	Meal Planning and Management	2+1	None
HN305	Public Health Nutrition	2+1	None
HN306	Food and Drug Laws	2+0	None
	Total	17	

Semester VI

Code	Course Title	CrHrs	Pre-Req.
HN311	Dietetics-II	2+1	HN301
HN312	Functional Foods and Nutraceuticals	3+0	None
HN313	Nutrition Through Social Protection	2+0	None
HN314	Sports Nutrition	2+1	None
HN315	Infant and Young Child Feeding	2+1	None
HN316	Clinical Biochemistry	1+2	None
	Total	17	

Semester VII

Code	Course Title	CrHrs	Pre-Req.
HN401	Dietetics-III	2+1	HN311
HN402	Global Food Issues	3+0	None
HN403	Research Methods in Nutrition	3+0	None
HN404	Nutritional Practices in Clinical Care	2+1	None
HN40X	Elective-I	2+0	None
HN40X	Elective-II	3+0	None
	Total	17	

Semester VIII

Code	Course Title	CrHrs	Pre-Req.
HN499	Internship/Project	0+6	
HN412	Nutrition Policies and Programs	3+0	None
HN413	Food Service Management	3+0	None
HN41X	Elective-III	2+0	None
HN41X	Elective-IV	3+0	None
	Total	17	

Elective Courses

Code	Course Title	CrHrs	Pre-Req.
HN405	Nutritional Immunology	3+0	None
HN406	Drug-Nutrient Interaction	2+0	None
HN407	Food Chemistry	2+0	None
HN408	Preventive Nutrition	3+0	None
HN409	Nutrition in Emergencies	3+0	None
HN414	Food Toxins & Allergens	3+0	None
HN415	Nutritional Deficiency Disorders	3+0	None
HN416	Food Supplements	2+0	None
HN417	Metabolism of Nutrients	2+0	None
HN418	Nutrition Epidemiology	2+0	None

BS Radiology Technology (BSRT)

Modern radiology is a highly diversified and vast field consisting of diverse areas such as – Diagnostic Radiology, Interventional Radiology and Radiation Therapy. The Radiology Technologist, as they are commonly called, work in all these areas of radiological sciences, discharging their duties often at tertiary level medical centers, diagnostic labs, teaching hospitals and academic research centers. These highly trained and specialized professionals work with patients undergoing procedures such as Interventional Angiography, Computed Tomography, Magnetic Resonance Imaging, Doppler Scanning, Ultrasonography and many others. Thus, they are a key part of healthcare delivery team in any modern hospital set up. To meet the growing demand for well-trained radiology technologist, the university offers a 4-year degree program in Radiology Technology. The curriculum of Radiology Technology is well designed to equip students with theoretical knowledge and practical skills. The students are provided with the opportunity to work in hospitals to sharpen up their clinical skills.

Program Educational Objective

The graduates of BSRT program are expected to:

1. Be competent Radiology technologist who exhibit theoretical knowledge and practical skills in hospitals, private clinical setups, diagnostic centers, labs and/or academia.
2. Practice clinically in an ethical and socially responsible manner.
3. Demonstrate interpersonal and management skills and engage in professional growth.

Program Learning Outcomes

The RT program enables students to achieve, by the time of graduation:

1. An ability to integrate concepts from the biological, physical, behavioral, and clinical sciences into radiology services.
2. An ability to exhibit professional conduct and behaviors that are consistent with the legal and ethical practice of radiology. Develop accuracy and meticulousness to attain high levels of ethics and technical proficiency.
3. An ability to demonstrate culturally sensitive verbal, nonverbal, and written communications(consents) that are effective, accurate, and timely.
4. An ability to collect and critically evaluate data and published literature to apply in the delivery of care, practice management, and to examine the theoretical and scientific basis for radiology.
5. An ability to collaborate with patients/ clients, caregivers, and other health care providers to develop and implement an evidence-based plan of care that coordinates human and financial resources.
6. An ability to provide services in the field of differential diagnosis, radiation therapy, radiation protection within the scope of radiology. Provide quality patient care in routine as well as advanced imaging procedures.
7. An ability to advocate for patient/client and profession.
8. An ability to provide consultative services

and education to patients/clients, caregivers, health care workers, and the public using culturally sensitive methods that are adapted to the learning needs, content, and context. Implementation of an effective protection program for the personnel and patient/client.

9. An ability to identify trouble-shooting & problems related to the equipment used in Radiology. Perform maintenance and corrective measures on imaging instruments, where required. Maintenance of stock solutions, controls and equipment.
10. An ability to demonstrate inter disciplinary team building strategies or effective co-ordination between various allied health disciplines. Develop good leadership, problem solving and administrative skills. Self-reflection and team building for research methodology in the field of radiology.
11. An ability to complete work in compliance with the quality assurance policies and procedures. Equipment, personnel, precautionary measures and construction should meet the requirements of QAP (Quality assurance policies). ALARA should be focused mainly.

Semester Plan

Semester I

Code	Course Title	CrHrs	Pre-Req.
RT101	Biochemistry-I	2+1	None
RT102	Human Physiology-I	2+1	None
RT103	Human Anatomy-I	3+1	None
SS104	English-I	3+0	None
SS118	Pakistan Studies	2+0	None
CS100	Introduction to Computing	2+1	None
	Total	18	

Semester II

Code	Course Title	CrHrs	Pre-Req.
RT111	Biochemistry-II	2+1	RT101
RT112	Human Physiology-II	2+1	RT102
RT113	Human Anatomy-II	3+1	RT103
SS203	English-II	3+0	SS104
SS108	Islamic Studies	2+0	None
	Total	15	

Semester III

Code	Course Title	CrHrs	Pre-Req.
RT206	Regional and Radiological Anatomy-I	2+1	None
RT208	General Radiology	2+1	None
RT207	Radiation Sciences and Technology	2+1	None
RT204	General Pathology	2+1	None
RT205	General Pharmacology	2+1	None
SS211	English-III	3+0	SS203
	Total	18	

Semester IV

Code	Course Title	CrHrs	Pre-Req.
RT210	Clinical Medicine-I	2+0	None
RT211	Regional and Radiological Anatomy-II	2+1	RT201
RT212	Conventional Radiological & Clinical Practice	2+1	None
RT213	Radiological Positioning	2+1	None
RT214	Computed & Digital Radiography (CR & DR)	2+1	None
RT215	Radiobiology & Radiation Protection	2+1	None
	Total	17	

Semester V

Code	Course Title	CrHrs	Pre-Req.
RT301	Computed Tomography (CT)	2+1	None
RT302	Mammography & Special Radiological Techniques	2+1	None
RT303	Magnetic Resonance Imaging (MRI)	2+1	None
RT304	General Surgery	2+1	None
RT305	Interventional Radiology	2+1	None
RT310	Clinical Medicine-II	2+1	RT210
	Total	18	

Semester VI

Code	Course Title	CrHrs	Pre-Req.
RT311	Radiological & Cross-sectional Anatomy	2+1	None
RT312	Computed Tomography (CT) Procedures & Clinical Practice	2+1	None
RT313	Magnetic Imaging (MRI)Procedures & Clinical	2+1	None
RT314	Therapeutic Radiology	2+1	None
MT210	Biostatistics	3+0	None
SS401	Research Methodology	3+0	None
	Total	18	

Semester VII

Code	Course Title	CrHrs	Pre-Req.
RT401	Clinical Sonography	2+1	None
RT402	Angiography and Cardiac Imaging	2+1	None
RT403	Nuclear Medicine	2+1	None
RT404	Echocardiography	2+1	None
RT405	Electrocardiography (ECG)	2+1	None
RT406	Clinical Pathology & Radiological Presentation	2+1	None
	Total	18	

Semester VIII

Code	Course Title	CrHrs	Pre-Req.
RT414	Patient care & Management	2+0	None
RT415	Medical Sociology	2+0	None
RT499	Research Project	06	None
RT416	Bio-ethics	2-0	None
RT417	Bio-entrepreneurship	2-0	None
	Total	14	

BS Orthotics & Prosthetic (BSOP)

With the rapid advancement of health care technologies, anesthetist and surgeons are utilizing a variety of electrical and electronic equipment, such as anesthesia machines, endoscopic equipment, etc. for monitoring anesthesia and surgical procedures. The successful patient outcome largely depend on the reliable and smooth performance of these equipment and skilled technologist to operate them. Therefore, operation theatre (OT) technologists are integral part of the operation theatre team in hospitals and operation theatre facilitates for preparing the equipment that are necessary for any surgical procedures. They also manage the patients in and out of operation theatre, look after all the surgical equipment, arrangement of operation theatre table, dressing table, anesthesia table as well as management of the staff.

Keeping in view the demand of skilled operation theatre technologists, The BS Operation Theatre Technology program is launched by the university. The aim of this 4-year degree program is to equip students with relevant professional knowledge, skills, techniques and ethical values. The curriculum is outcome based and focuses on the required theoretical concepts and practical skills in the domain. By undergoing this program, students develop critical, analytical thinking and problem solving abilities for a smooth transition from academic to real-life work environment.

Program Educational Objectives (PEOs)

The graduates of BS Operation Theatre Technology are expected to:

1. Be competent professionals who exhibit theoretical knowledge and practical skills as an Operation Theatre Technologist in healthcare sectors, academia, and industry.
2. Demonstrate strong professional ethics, social responsibility, interpersonal and social skills.
3. Engage in life-long learning, graduate-level studies, research or professional development.

Program Learning Outcomes (PLOs)

The graduates of BS Operation Theatre Technology are expected to

1. Describes structure, function and biochemical reactions of human body.
2. Articulate broad and coherent disciplinary theoretical and technical knowledge in Operation Theatre Technology.
3. Apply the knowledge and skills of handling operation theatre room to provide safe and effective care to individual undergoing operational procedures.
4. Assesses the patient for any complications with an understanding of the problem and recognizes the need to report the complications to the surgery.
5. Demonstrate the ability to acquire, analyze and apply new information in Operation Theatre Technology.
6. Demonstrate problem-solving and critical thinking skills that integrate current knowledge and scientific advances in

Operation Theatre management.

7. Demonstrate an understanding of professional ethics and challenges to the operation theatre technologist posed by conflict of interest inherent in health care delivery, and the ability to incorporate those principles into decisions affecting patient care.
8. Demonstrate an ability to communicate effectively, orally and in writing, with a range of audience.
9. Demonstrate an ability to function effectively in a team as an individual as well as a team member to accomplish a task.
10. Recognition the need of, and an ability to engage in continuing professional development.

Semester Plan

Semester I

Code	Course	CrHrs	Pre-Requisite
MT100 / PSY101	Basic Mathematics / Fundamental of Biology	3+0	None
OP101	Introduction to Orthotics & Prosthetics & workshop	4+0	None
OP102	Behavioral Sciences (Psychiatry & Psychology)	2+0	None
NS101	Introduction to Physics	3+0	None
CS101	Introduction to Computing Applications	2+1	None
SS108	Islamic Studies / Ethics	2+0	None

Semester II

Code	Course	CrHrs	Pre-Requisite
OP111	Upper Limb & General Anatomy	3+1	None
OP112	Systemic Physiology	2+1	None
OP113	Materials Technology	3+0	None
SS104	English I	3+0	None
SS118	Pakistan Studies	2+0	None
OP117	Biochemistry	2+0	None

Semester III

Code	Course	CrHrs	Pre-Requisite
OP201	Lower Limb Anatomy	3+1	OP111
OP202	Physiology of Nervous System, Neuro-muscular Physiology	2+1	OP112
OP203	Pathology	2+0	None
OP204	Orthopaedic interventions in Orthotics & Prosthetics	3-0	None
OP205	Technical Drawing	2+1	None
OP206	Introduction to Physiotherapy	2+0	None

Semester IV

Code	Course	CrHrs	Pre-Requisite
OP211	Head & Neck (vertebral column)	2+1	OP201
OP212	Rehabilitation and sports Medicine & Mobility aids	2+1	None
OP213	Metal Work	2+1	None
OP214	Electro Work	2+1	None
OP215	Lathe Machine Work	2+1	None
MT210	Bio-Statistics	3+0	None

Semester V

Code	Course	CrHrs	Pre-Requisite
OP301	Upper Limb Orthotics I	2+1	None
OP302	Spinal Orthotics I	2+1	None
OP303	Lower Limb Orthotics I	2+1	None
OP304	Upper Limb Prosthetics I	2+1	None
OP305	Lower Limb Prosthetics I	2+1	None
OP306	Biomechanics I	2+0	None

Semester VI

Code	Course	CrHrs	Pre-Requisite
OP311	Upper Limb Orthotics II	2+1	OP301
OP312	Spinal Orthotics II	2+1	OP302
OP313	Lower Limb Orthotics II	2+1	OP303
OP314	Upper Limb Prosthetics II	2+1	OP304
OP315	Lower Limb Prosthetics II	2+1	OP305
OP316	Biomechanics II	2+0	OP306

Semester VII

Code	Course	CrHrs	Pre-Requisite
OP406	Biomechanics III	2+1	OP316
OP404	Lower Limb Prosthesis III	2+1	OP314
OP403	Lower Limb Orthosis III	2+1	OP313
SS403	Research Methodology	3+0	None
OP407	Workshop practices I	0+3	None
OP408	Clinic, Workshop & Business Management	2+0	None

Semester VIII

Code	Course	CrHrs	Pre-requisite
OP410	Fundamentals of Electricity & Electronics	3+0	None
OP411	CAD-CAM Technology	2+1	None
OP417	Workshop practices II	0+4	OP407
OP499	Research Project	0+6	None

BS Vision Sciences (BSVS)

Vision, for most people is one of the most valuable sensory modalities in their life. It is hot topic and related to how we see, how and why vision fails, and what can be done about it? The Vision Science [VS] has, in its own right, emerged as a strong field of medical sciences that needs to be learned and practiced to alleviate the human sufferings.

BS Vision Sciences (Optometry) is a multidisciplinary degree, which will prepare you to handle issues relating to human vision; including the study of biochemistry, biophysics, engineering, epidemiology, molecular biology, cell biology, neuroscience, optics, ophthalmology, optometry, pathology, physiology, psychology, statistics, and any other discipline that relates to the eye and its problems. The program has the potential of expanding to postgraduate studies leading to MS and PhD degrees.

Career Paths

Optometrists/Orthoptists examine, diagnose, treat and manage diseases and disorders of the eye, as well as diagnose and refer patients to other health care providers for a variety of systemic and neurological conditions that are frequently diagnosed during the primary eye examination.

Some of the career choices for BS graduates include: Hospital based practices (Private/ Public Sector), Private practice, Retail optical practice, Ophthalmic products manufacturers, Academic institutions, and Specialty vision care centers etc.

Market Analysis

As innovative technologies become available for the diagnosis and treatment of potentially blinding conditions, the need for vision sciences expertise will be significant, making promising present and future career prospects for the optometrists/orthoptists. According to an international survey, Optometrist is ranked at #20 best health care job (https://money.usnews.com/careers/best-jobs/optometrist) Keeping in view the increasing demand, presently a number of universities and institutes (more than 20) are offering BS Vision Sciences Programs such as Isra University, Pakistan Institute Of Rehabilitation Sciences, Professional College of Medical Sciences, King Edward Medical University, Capital College Of Health Sciences, Al Wateen Institute of Medical Sciences, and Bashir Institute of Health Sciences. Some data collected from local universities/institutes show that number of applicants and intake is quite good and intakes is between 30-70 students in different universities and hospitals.

Availability of Labs and Allied Hospital

The labs of Department of Rehabilitation and Health Sciences and Pharmacy are well equipped and can be used by the students of BS Vision Sciences students. Specialized labs for the program can be established in due course of time. The financial resources for establishing these labs can be made available easily.

The department already has MOUs signed with two hospitals for clinical rotation of the students. The negotiations with two more hospitals (Mahroof International Hospital and Rawal Medical College) for clinical rotation are in progress and hopefully we will be signing MOUs with these hospitals soon.

Availability of Faculty

The qualified faculty is available in the market and could be hired when required. Many of the courses of BS Science Vision are common with DPT, MLT and other allied programs for which faculty is already available at the campus.

Program Duration

The BS Vision Sciences is a 4-year degree program. The course work is so designed that at the end of successful completion of each year, the student accomplishes a set of course work related to a field and gains practical training in it to entitle him/her to a BS degree that is granted by the concerned department of the Abasyn University.

Admission Requirements

The admission to this program is open to students who have acquired a minimum qualification of intermediate level of education or equivalent in science subjects with a minimum of 50% marks. The candidates will take Abasyn University Admission Test. The merit will be determined as per AU admission policy.

Degree Requirements

BS Vision Sciences Program is spread over 4 years. A student has to complete a minimum of 136 credits with a CGPA 2.0 to earn the degree.

Regulatory Body

Presently there is no regulatory body for the programs. However an association of professionals (Pakistan Optometry and Vision Science Association) exists in Pakistan.

Semester Plan

Semester I

Code	Course	CrHrs	Pre-Requisite
VS101	General Anatomy	3+1	None
VS102	General Physiology	2+1	None
VS103	Microbiology	2+0	None
VS104	Biochemistry	2+0	None
VS105	Introduction to Optometry	1+0	None
SS104	English-I	3+0	None
SS108	Islamic Study	2+0	None
	Total	17	

Semester II

Code	Course	CrHrs	Pre-Requisite
VS111	General Pharmacology	2+0	None
VS112	Pathology	2+0	None
VS113	Physical & Geometrical optics	2+0	VS105
VS114	Basic & Clinical Refraction	2+0	None
CS100	Introduction to Computing	2+1	None
SS203	English-II	3+0	SS104
SS118	Pakistan Study	2+0	None
MT210	Biostatistics	3+0	None
	Total	19	

Semester III

Code	Course	CrHrs	Pre-Requisite
VS201	Ocular Anatomy	2+1	None
VS202	Ocular Physiology	2+1	None
VS203	Ocular Pharmacology	2+0	None
VS204	Ocular Diseases-I	2+0	None
VS205	OPD and Ward Procedures	0+3	None
Vs206	OT Procedures	0+3	None
CSXXX	Computer Applications in VS	1+1	CS100
	Total	17	

Semester IV

Code	Course	CrHrs	Pre-Requisite
VS210	Instrument Optics	2+0	None
VS211	Ocular Diseases-II	2+0	VS204
VS212	Visual & Clinical Optics	2+0	None
VS213	Ocular Investigation	1+1	None
VS214	Refraction Clinic-I	0+3	None
VS215	Special Clinical Duty-I	0+3	None
SS223	Behavioral Sciences	2+0	None
	Total	16	

Semester V

Code	Course	CrHrs	Pre-Requisite
VS301	Contact Lens	3+0	None
VS302	Advanced Refraction	2+0	None
VS303	Dispensing Optics-I	3+0	None
VS304	Refraction Clinic-II	0+3	VS214

VS305	Contact Lens Clinic-I	0+3	None
VS306	Optical Laboratory-I	0+3	None
	Total	17	

Semester VI

Code	Course	CrHrs	Pre-Requisite
VS310	Basic Orthoptics	2+0	None
VS311	Low Vision-I	2+0	None
VS313	Dispensing Optics-II	2+0	VS303
VS314	Refraction Clinic-III	0+3	VS304
VS315	Contact Lens Clinic-II	0+2	VS305
VS316	Optical Laboratory-II	0+3	VS306
VS317	Community Ophthalmology	2+0	None
VS318	First Aid & Hygiene	1+0	None
	Total	17	

Summer

Code	Course	CrHrs	Pre-Requisite
VS404	Special Clinical Duty-II	0+3	VS215

Semester VII

Code	Course	CrHrs	Pre-requisite
VS401	Research Methodology and Professional Ethics	3+0	None
VS402	Low Vision-II	2+0	VS311
VS403	Occupational Optometry	2+0	None
VS405	Orthoptics Clinic-I	0+3	None
VS406	Refraction Clinic-IV	0+2	VS314
VS407	Low Vision Clinic-I	0+3	None
VS408	Clinical Orthoptics	2+0	None
VS409	Pediatric Optometry	2+0	None
	Total	19	

Semester VIII

Code	Course	CrHrs	Pre-requisite
VS410	Optical Shop and Industry Management	1+1	None
VS411	Ophthalmic Instruments & Maintenance	1+1	None
VS412	Orthoptics Clinic-II	0+3	VS405
VS413	Low Vision Clinic – II	0+2	VS407
VS499	Dissertation Writing	0+6	None
	Total	14	

BS Operation Theatre (BSOT)

Operation Theatre Technology is a detailed technical occupation in the field of health science. These medical professionals are an important part of the operation unit team who work alongside with the surgeon, anesthesiologist and nurse in order to provide quality patient care throughout the surgery. These technicians make sure that every single process in the operation theatre is as secure and flourishing as possible. Their prime duty is to take care of all the work and management of the operation theatre which comprise looking after all the surgical instruments, their sterilization, preparation of dressing table, operation theatre table, instrument table as well as anesthesia table. They also look after the drugs necessary for surgery, anesthetic gases, drapes and all the linen and their sterilization. They bring together both sterile and non-sterile tools and at the same time regulate them to make sure that all are functioning appropriately.

Career Paths

After completing a B.Sc Operation Theatre Technology course hospitals and healthcare centers are the main recruiters for the operation theatre technologists. As a technologist, they can get a chance to work in the operation theatres, emergency departments of the hospitals, and in the ICUs. They may work in private specialty practices surgery as ophthalmology, neurosurgery, obstetrics and Orthopedics. Ambulatory surgery centers also employ surgical technologists, as do veterinarians for assistance in surgery. These Technologists may work as sales representatives or technical specialists for teaching Operating Room Staffs how to use new equipment's, such as orthopedic devices and implants. They may get chance to work as a teacher/ lecturer in the respective field etc.

Market Analysis

As innovative technologies become available to work as an OT technician, Lab Technician, OT Assistant, Associate Consultant in the operation theatres, emergency departments of the hospitals, and in the ICUs. Keeping in view the increasing demand, presently a number of universities and institutes (more than 15) are offering BS Operation Theatre Technology Program such as Shaheed Zulfiqar Ali Bhutto Medical University, Pims, Mirpur University Of Science And Technology Mir Pur (AJK), The University Of Faisalabad, The Superior University, D. G. Khan Medical College, Aziz Fatimah Medical And Dental College, Independent Medical College Faisalabad, Capital College Of Health Sciences, Allied College Of Health

Science, Akhtar Saeed Medical And Dental College, Central Park College Of Allied Health Sciences, Gulab Devi Educational Complex, Allied College Of Health Sciences, Hafeez Institute Of Medical Sciences Peshawar, Sialkot Medical College, Laeeque Rafique Institute Of Medical Sciences & Nursing School. Some data collected from local universities/institutes show that number of applicants and intake is quite good and intakes is between 25-50 students in different universities and hospitals.

Program Duration

The BS Operation Theatre Technology is a 4 – Year Degree Program. The course work is so designed that at the end of successful completion of each year, the student accomplishes a set of course work related to a field and gains practical training in it to entitle him/her to a BS degree that is granted by the concerned department of the Abasyn University.

Admission requirements

The admission to this program is open to students who have acquired a minimum qualification of intermediate level of education or equivalent in science subjects with a minimum of 50% marks. The candidates will take Abasyn University Admission Test. The merit will be determined as per AU admission policy.

Degree requirements

BS Operation Theatre Technology Program is spread over 4 years. A student has to complete a minimum of 136 credits with a CGPA 2.0 to earn the degree.

Availability of Labs and Allied Hospital

The labs of Department of Rehabilitation and Health Sciences and Pharmacy are well equipped and can be used by the students of BS Operation Theatre Technology students. Specialized labs for the program can be established in due course of time. The financial resources for establishing these labs can be made available easily.

The department already has MOUs signed with two hospitals for clinical rotation of the students. The negotiations with two more hospitals (Mahroof International Hospital and Rawal general Hospital) for clinical rotation are in progress and hopefully we will be signing MOUs with these hospitals soon.

Availability of Faculty

The qualified faculty is available in the market and could be hired when required. Many of the courses of BS Operation Theatre Technology are common with DPT, MLT and other allied programs for which faculty is already available at the campus.

Semester Plan

A tentative semester plan is given below which is also being followed by other universities/institutes. A detailed curriculum and semester plan will be presented to the concerned BOS for approval. (Course Codes to be decided later on, the credit hours are tentative)

Admission Requirements

The admission to this program is open to students who have acquired a minimum qualification of intermediate level of education or equivalent in science subjects with a minimum of 50% marks. The candidates will take Abasyn University Admission Test. The merit will be determined as per AU admission policy.

Semester I

Code	Course	CrHrs	Pre-Requisite
OT101	Anatomy	4 (3-1)	None
OT102	Physiology	4 (3-1)	None
SS218	Introduction to Psychology	3 (3-0)	None
ENG-321	English-I	3 (3-0)	None
ISL-321	Islamic Studies	2 (2-0)	None
	Total	16	

Semester II

Code	Course	CrHrs	Pre-Requisite
OT111	General Pathology	4 (3-1)	None
OT112	Pharmacology	2 (2-0)	None
OT113	Biochemistry	3 (2+1)	None
ES115	Computer Applications in Health Sciences	3 (2-1)	None
SS118	Pakistan Studies	2 (2-0)	None
OT114	Fundamentals of Operation Theatre Technology	2(2-0)	None
	Total	17	

Semester III

Code	Course	CrHrs	Pre-Requisite
OT201	Community Medicine / Public Health	3 (3-0)	None
OT202	General Microbiology & Sterilization	3 (2-1)	None
OT203	Principles of Surgery	3 (3-0)	None
OT204	Operation Theatre Instruments & Techniques -I	3 (2-1)	OT114
OT205	Surgical Pharmacology I	3 (2-1)	OT112
OT206	Operating Room Skills I	2(0-2)	None
	Total	18	

Semester IV

Code	Course	CrHrs	Pre-Requisite
SS211	Technical Report Writing	2 (2-0)	SS104
OT211	Surgical Procedures & Skills I	4 (3-1)	OT203
OT212	Basic Anesthesia & Techniques	3 (2-1)	None
OT213	Surgical Pharmacology II	3 (2-1)	OT205
OT214	Operation Theatre Instruments & Techniques – II	3 (2-1)	OT204
OT215	Operating Room Skills II	2 (0-2)	OT206
	Total	17	

Semester V

Code	Course	CrHrs	Pre-Requisite
OT301	Surgical Anatomy I	4 (3-1)	OT101
OT302	Clinical Pathology	3 (2-1)	OT111
OT303	Medical Physics	3 (2-1)	None
OT304	Operation Theater Technology – I	4 (3-1)	None
OT305	Operating Room Skills III	2 (0-2)	OT215
	Total	17	

Semester VI

Code	Course	CrHrs	Pre-Requisite
OT314	Operation Theater Technology – II	4 (3-1)	OT304
OT312	Sterilization and Disinfection	4 (3-1)	OT312
OT311	Surgical Anatomy II	3 (2-1)	OT301
OT315	Advanced Diagnostic Techniques	4 (3-1)	None
OT316	Critical Care	3 (2-1)	None
	Total	18	

Semester VII

Code	Course	CrHrs	Pre-requisite
OT401	Forensic Medicine	3 (3-0)	None
MT210	Biostatistics	3 (3-0)	None
OT402	Operation Theatre Management	3 (2-1)	None
OT403	Clinical & Applied Microbiology	3 (2-1)	None
OT411	Surgical Procedures & Skills II	3 (2-1)	None
OT404	Advanced Anesthesia & Techniques	3 (2-1)	None
OT405	Research Methodology and Professional Ethics	3(3+0)	None
	Total	18	

Semester VIII

Code	Course	CrHrs	Pre-requisite
OT412	Epidemiology	3(3-0)	None
OT413	Bioinformatics I	3(2-1)	None
OT414	Biomaterials & Surgical Implants	3(2-1)	None
OT415	Operation Theatre Design & Reconstruction	3(2-1)	None
OT499	Research Project / Term paper	3(0-3)	None
	Total	15	

Department of Management & Social Sciences

Introduction

Established in 2012, the Department of Management & Social Sciences is one of the most accomplished and reputed department of the University. The department is renowned for its commitment in delivering quality education, a broad range of contemporary skills and inculcating a strong sense of social responsibility. The department provides students with a stimulating environment in which students can acquire a superior level of business, linguistics, literary, communicative, cultural and humanistic competences broad enough to make them operate in diverse walks of life quite effectively and efficiently. The department is proud to have highly qualified and experienced faculty with strong academic background and enviable reputation. The Department has established a diversified academic portfolio of undergraduate programs in Business Administration, English, Psychology, Tourism & Hospitality Management and Mass Communication.

Bachelor of Business Administration

The four-year full-time BBA degree program is tailored to produce business leaders and entrepreneurs who can effectively operate in a diverse range of business organizations. The program equips the students with innovative thinking, data-driven problem solving, and analytical skills to solve complex business problems using quantitative tools and qualitative methods. The flexible curriculum provides an opportunity to students in final year of the program to specialize in the core functions of management sciences. This program is open to the students with diverse educational backgrounds including, humanities, science, arts and commerce. However, being a program with challenging curricula and content, it is accessible mainly to those students who have excellent academic record and high potential for success.

Program Education Objectives

The BBA aims to prepare the graduates who are expected to:

1. Apply knowledge and skills to succeed in their professional career in public or private sectors and/or embark on entrepreneurial path.
2. Demonstrate strong professional ethics, social responsibility, interpersonal and social skills.
3. Engage in life-long learning, graduate-level studies, research or professional development.

Program Learning Outcomes

The students, at the time of graduation, will have the ability to:

1. Apply knowledge of business administration appropriate to the discipline.

2. Analyze a problem, identify alternatives and propose an appropriate solution to the problem.
3. Demonstrate understanding of theory, operations, and challenges of global business.
4. Design and evaluate a business plan that affectively addresses a business problem.
5. Identify and evaluate relevant information for decision making using diagnostic thinking skills and analytical techniques to assess the information and solve problems in environment characterized by uncertainty.
6. Use computer-based information systems and end-user computing tools in a business environment.
7. Demonstrate an understanding of professional, ethical, legal, security, and cultural & social issues and responsibilities.
8. Communicate effectively, both orally and in writing, with a diverse range of audiences.
9. Work effectively in teams to achieve a common organizational goal.
10. Demonstrate an understanding of various leadership styles and exercise these styles according to the situation.
11. Recognize the need for, and an ability to engage in, continuing professional development.

Semester Plan

Semester I

Code	Title	CrHrs	Pre-Req.
MG102	Financial Accounting	3+0	None
MG105	Introduction to Business	3+0	None
MG207	Principles of Management	3+0	None
CS100	Introduction to Computing	3+0	None
SS104	English-I (Functional English)	3+0	None
SS108	Islamic Studies/Ethics (for Non- Muslims)	2+0	None
	Total	17	

Semester II

Code	Title	CrHrs	Pre-Req.
MG104	Microeconomics	3+0	None
MG202	Financial Accounting-II	3+0	MG102
MG309	Principles of Marketing	3+0	None
MT104	Business Mathematics	3+0	None
SS118	Pakistan Studies	2+0	None
SS211	English-III (Effective Writing Skills)	3+0	SS104
	Total	17	

Semester III

Code	Title	CrHrs	Pre-Req.
MG115	Introduction to Human Resource Management	3+0	None
MG204	Macroeconomics	3+0	MG104
MG206	Business Finance	3+0	MG202
MT205	Business Statistics	3+0	MT104
SS216	Introduction to Sociology	3+0	None
SS288	Business Communication	3+0	SS211
	Total	18	

Semester IV

Code	Title	CrHrs	Pre-Req.
MG201	Cost Accounting	3+0	MG202
MG301	Financial Management	3+0	MG206
MG366	Marketing Management	3+0	MG309
CS407	E-commerce	3+0	CS125
SS208	Environmental Sciences	3+0	None
SS218	Introduction to Psychology	3+0	SS216
	Total	18	

Semester V

Code	Title	CrHrs	Pre-Req.
MG245	Organizational Behavior	3+0	SS218
MG306	Consumer Behavior	3+0	MG309
MG308	Business Law	3+0	None
MG352	Managerial Economics	3+0	MG204
SS225	Chinese	3+0	None
MT305	Statistical Inference	3+0	MT205
	Total	18	

Semester VI

Code	Title	CrHrs	Pre-Req.
MG303	Business Research Methods	3+0	MT305
MG445	Project Management	3+0	MG207
MG222	Pakistan Economics	3+0	MG204
SS406	Business Ethics	3+0	None
CS204	Management Information Systems	3+0	CS125
	Total	15	

Summer Semester

Code	Title	CrHrs	Pre-Requ.
SE494	Summer Internship	Non-Credit	After completing 3 years

Semester VII

Code	Title	CrHrs	Pre-Req.
MG403	Entrepreneurship	3+0	None
MG458	International Business Management	3+0	MG207
MGxxx	Specialization Elective-I	3+0	
MGxxx	Specialization Elective-II	3+0	
MG499	Project-I	3+0	MG303
	Total	15	

Semester VIII

Code	Title	CrHrs	Pre-Req.
MG330	Production and Operations Management	3+0	MG403
MGxxx	Specialization Elective-III	3+0	
MGxxx	Specialization Elective-IV	3+0	
MG499	Project-II	3+0	MG499
	Total	12	

BS
Accounting & Finance

The BS (Accounting & Finance) is a highly specialised degree, preparing the graduate as having expertise in Accountancy and Finance. The students will acquire the knowledge and technical skills needed to analyse accounting/finance and business problems, and they will understand how best to communicate and use financial information to support business decisions. The degree offers specialization in accounting and/or Finance.

With the management of financial information underpinning all business activities, there are more employment and career opportunities in accounting and finance than many other areas of study. This degree will prepare students for a rewarding career in any sector of the economy. The graduates may work as a Financial Accountant, Forensic Accountant, Management Accountant, Auditor, Chief Financial Officer, Financial Advisor and Tax Specialist.

Entry Requirements

Students with FA/FSc. or equivalent qualification and having at least 2nd division, securing 45% marks in aggregate will be eligible to apply. Qualifying the Abasyn entry test for admission and interview will be compulsory. Candidates scoring less than 40% marks, each in the test and interview, shall stand disqualified for admission. Candidates who have secured at least 40% marks in the NAT test are also eligible.

Semester Plan

Semester I

Code	Title	CrHrs	Pre-Req.
SS – 111	Functional English	3	None
MG – 112	Introduction to Business	3	None
MG – 113	Principles of Management	3	None
FA – 114	Financial Accounting – I	3	None
SS – 115	Pakistan Studies	2	None
SS – 116	Islamic Studies/Ethics (for Non-Muslims)	2	None
	Total	16	

Semester II

Code	Title	CrHrs	Pre-Req.
MG – 121	Principles of Marketing	3	None
FA – 122	Financial Accounting – II	3	FA – 114
MG – 123	Principles of Microeconomics	3	None
MT – 124	Business Mathematics	3	None
SS – 125	Effective Writing Skills	3	SS – 111
CS – 126	IT in Business	3	None
	Total	18	

Semester III

Code	Title	CrHrs	Pre-Req.
MT – 211	Business Statistics	3	MT 124
CA – 212	Cost Accounting	3	FA – 114
MG – 213	Principles of Macroeconomics	3	MG – 123
SS – 214	Business Communication	3	SS 111
BL – 215	Business Law	3	None
BF – 216	Business Finance	3	None
	Total	18	

Semester IV

Code	Title	CrHrs	Pre-Req.
MG – 221	Inferential Statistics	3	MT 211
MA – 222	Management Accounting	3	CA 212
CS – 223	E-Commerce	3	CS 126
MG – 224	Financial Institutions and Capital Market	3	None
FM – 225	Financial Management	3	None
MG – 226	Central, Commercial and Corporate Banking	3	None
	Total	18	

Semester V

Code	Title	CrHrs	Pre-Req.
PM – 311	Performance Management	3	MA – 222
AUD – 312	Auditing	3	None
MG – 313	Accounting Information System	3	None
CF – 314	Corporate Finance	3	MG – 225
MG – 315	Human Resource Management	3	MG – 1131
AA – 316	Advanced Accounting	3	FA – 122
	Total	18	

Semester VI

Code	Title	CrHrs	Pre-Req.
BT – 321	Business Taxation	3	None
MG – 322	Behavioural Finance	3	CS – 126
MG – 323	Business Research Methods	3	None
AUD – 324	Advanced Auditing	3	AUD- 312
FRA – 325	Financial Reporting and Analysis	3	AA- 316
	Total	15	

Semester VII

Code	Title	CrHrs	Pre-Req.
CL – 411	Corporate Law	3	BL – 215
AT – 412	Advanced Taxation	3	BT – 321
AFR – 413	Elective – 1	3	Concern
FRM – 414	Elective – 2	3	Concern
MG – 415	Internship/Project Report – I	3	
	Total	15	

Semester VIII

Code	Title	CrHrs	Pre-Req.
MG – 421	Econometrics Application in Business	3	None
AMA – 422	Elective – 3	3	Concern
IAP – 423	Elective – 4	3	Concern
ACF – 424	Elective – 5	3	Concern
MG – 425	Internship/Project Report – II	3	
	Total	15	

Semester Plan

1. Advanced Managerial Accounting
2. Corporate Governance
3. Financial Statement Analysis
4. Advance Financial Reporting
5. Essential Software
6. Tax Management and Optimization
7. Any other course
8. Financial Risk Management
9. Investment Analysis and Portfolio Management
10. Advance Corporate Finance
11. Financial Econometrics
12. Public Finance Financial Management
13. Mergers and Acquisitions
14. Case Studies in Finance
15. Financial Modelling
16. Entrepreneurial Finance
17. Marketing of Financial Services
18. Strategic Financial Management
19. Contemporary Issues in finance
20. Regulations and Financial Markets
21. Islamic Banking and Finance
22. Any other course

The department may offer courses from a variety of electives in an area of specialization depending upon the availability of faculty and changing market trends. The list of elective courses is not exhaustive and new courses may be added as per market requirements.

BS
Digital Marketing (BS-DM)

Digital marketing is an online marketing that helps promote a business, brand, service, or product. Digital marketing helps brands to connect to their potential customers with the use of digital media which includes the internet, and other forms of digital communications. It can also include, social media, email marketing, web-based advertising, and much more. The world is moving toward the digital era at a rapid pace and over the past few years, many businesses and firms have adopted the idea of digital media marketing. Digital marketing is revolutionizing the way businesses connect with their customers, and Pakistan is not lagging behind! With a surge in demand for digital marketing, the scope of this field in Pakistan is skyrocketing, offering a plethora of well-paying jobs. From social media to email marketing and beyond, digital marketing is the way forward in Pakistan, with startups paving the way for a thriving economy and job market.

BS -Digital Marketing (BS-DM) is designed to provide a comprehensive curriculum in the field of digital marketing to cater the requirements of the changing business and technology landscape. It is intended to meet the requirements of business organizations, with a holistic philosophy based on industry-led approach. Through this program, learners will learn the diverse skills needed to succeed in almost every sphere of the digital marketing field.

The four years BS -Digital Marketing (BS-DM) is tailored made to serve the needs of the bright young persons who have completed twelve years of education and are looking for a career in marketing profession or towards higher education in marketing. This programme is open to the students with diverse educational backgrounds including, humanities, science, arts and commerce. The four years BS -Digital Marketing (BS-DM) promises the graduates higher level employability at the entry level of digital marketing management profession through helping them fulfill potential for high earnings and greater personal development.

Eligibility and Selection Criteria

A candidate must have 45% or above marks in Intermediate or an equivalent qualification to be eligible for admission in the BBA program.

Selection of candidate for the admission is based on the following criteria:

Matric:	10%
Intermediate or equivalent:	50%
Entry test, NTS or any other aptitude test:	40%

Semester Plan

Semester I

Code	Title	CrHrs	Pre-Req.
TBA	Principles of Marketing	3+0	None
TBA	English-I (Functional English)	3+0	None
TBA	Introduction to Computing	3+0	None
TBA	Pakistan Studies	2	None
TBA	Islamic Studies	2	None
TBA	Introduction to Business	3+0	None

Semester II

Code	Title	CrHrs	Pre-Req.
TBA	Principles of Management	3+0	None
TBA	English III (Effective Writing skills)	3+0	English-I
TBA	Business Mathematics and Statistics	3+0	None
TBA	Financial Accounting & IT	2+1	Introduction to Computing
TBA	Introduction to Digital Marketing	3+0	None
TBA	Introduction to Psychology	3+0	None

Semester III

Code	Title	CrHrs	Pre-Req.
TBA	Business Communication	3+0	English III
TBA	Managerial Economics	3+0	None
TBA	E-Human Resource Management	3+0	Principles of Management
TBA	Marketing Management	3+0	Principles of Marketing
TBA	Graphic Design & Animation	2+1	None
TBA	Freelancing & Creative Consultancy	2+1	None

Semester IV

Code	Title	CrHrs	Pre-Req.
TBA	Creative Content Writing	2+1	Business Communication
TBA	Digital Economy of Pakistan	3+0	Managerial Economics
TBA	Website Design & Development	2+1	Graphic Design & Animation
TBA	Online Consumer Behaviour	3+0	Marketing Management
TBA	E-Commerce	3+0	Introduction to Computing
TBA	Financial Management	3+0	Financial Accounting & IT

Semester V

Code	Title	CrHrs	Pre-Req.
TBA	Entrepreneurship	3+0	None
TBA	Digital Marketing Campaign	2+1	Introduction to Digital Marketing
TBA	Social Media Marketing	3+0	Introduction to Digital Marketing
TBA	Organizational Behaviour	3+0	E-Human Resource Management
TBA	Marketing Research Methods	3+0	Marketing Management
TBA	Digital Brand Management	3+0	Introduction to Digital Marketing

Semester VI

Code	Title	CrHrs	Pre-Req.
TBA	Sociology	3+0	None
TBA	Business Ethics	3+0	None
TBA	Cyber Law	2+1	None
TBA	Cyber Security	3+0	None
TBA	SEO	2+1	None

Semester VII

Code	Title	CrHrs	Pre-Req.
TBA	International Business Management	3+0	None
TBA	Digital Sales Management	3+0	Introduction to Digital Marketing
TBA	Elective-I	3+0	None
TBA	Elective-II	3+0	None
TBA	Digital Marketing Project-I	3+0	None

Semester VIII

Code	Title	CrHrs	Pre-Req.
TBA	Business policy	3+0	None
TBA	Working in Virtual Teams	3+0	None
TBA	Elective-III	3+0	None
TBA	Elective-Iv	3+0	None
TBA	Digital Marketing Project-II	3+0	EC27

Specialization Courses

Code	Title	CrHrs
TBA	Content Marketing	2+1
TBA	Affiliate Marketing	3+0
TBA	Total Quality Management	3+0
TBA	E-CRM	3+0
TBA	Strategic Online Marketing	3+0
TBA	Pay per click Marketing	3+0
TBA	Applied Marketing Analytics	2+1

BS English

BS English is a rigorous 4-year degree program that aims at developing learners' ability to critically read and analyze linguistics and literary texts in their historical, socio-political, cultural, and philosophical contexts. The study of literature blended with the study of English language helps to improve the linguistic and pedagogical competence of the students. The degree can lead to a wide range of careers. In immediate and practical terms, the students become equipped for an enormous range of careers and postgraduate opportunities. The BS English graduates can pursue careers in translation, teaching and academics, professional writing, arts and media, journalism, administration, public relations, leisure and tourism management, international relations, and marketing.

Program Education Objectives

The BS English aims to prepare the graduates who are expected to:

1. Be able to use English language and communication skills acquired in pursuance of a successful career in research, teaching, print media, television and other related areas.
2. Keep abreast with current developments and issues in English language and Communication studies; pursue further education in English, Linguistics and Communication and/or carry out independent research in their area(s) of specialization.
3. Contribute positively to society through responsible, professional, and ethical practice in pursuance of their career and research.

Program Learning Outcomes

The students, at the time of graduation, will have the ability to:

1. Understand, analyze and interpret literary texts through close and critical reading.
2. Place literature in relation to its historical, cultural, intellectual, theoretical, aesthetic, social and political contexts.
3. Locate, evaluate and use relevant scholarship, literary criticism and cultural commentary, both in print and online.
4. Engage in public discourse through careful listening, respectful questioning and thoughtful speaking in both formal and informal settings.
5. Recognize literature as a vehicle for both individual and cultural expression that can engage the imagination, elicit feeling, express value and enable inquiry.
6. Identify the characteristics of different forms of literature including the major genres and hybrid forms.
7. Construct clear, grammatical sentences and produce well-organized texts that exhibit an attention to audience, genre, and purpose and that follow the conventions of logical argumentation.
8. Understand and articulate general issues concerning nature & function of language. These include the basic mechanisms common to all languages: The domains of phonetics, phonology, morphology, syntax, semantics, and pragmatics.
9. Analyze the structure and function of language as used in natural discourse.
10. Understand and evaluate current research

methodologies and how they are applied to problems in literature and linguistics.

11. Function effectively in a team by assuming different roles and demonstrating effective leadership qualities and project management skills to accomplish a common goal towards a significant project.
12. Assess professional, ethical, legal, security and social issues and responsibilities.
13. Communicate effectively both verbally and in writing with a range of audiences.
14. Engage in continuing professional development and life-long learning.

Semester Plan

Semester I

Code	Course Title	CrHrs	Pre-Req.
ENG101	English Structure	3+0	None
ENG102	Introduction to Literature	3+0	None
ENG103	Introduction to Linguistics	3+0	None
SS118	Pakistan Studies	2+0	None
XXxxx	General Course-I	3+0	None
XXxxx	General Course-II	3+0	None
	Total	17	

Semester II

Code	Course Title	CrHrs	Pre-Req.
ENG104	English Communication Skills	3+0	ENG101
ENG105	History of English Literature-I	3+0	None
ENG106	Phonetics in English & Phonology	3+0	ENG101
SS108	Islamic Studies	2+0	None
XXxxx	General Course-III	3+0	None
XXxxx	General Course-IV	3+0	None
	Total	17	

Semester III

Code	Course Title	CrHrs	Pre-Req.
ENG201	Technical Report Writing	3+0	ENG104
ENG202	History of English Literature-II	3+0	ENG105
ENG203	Introduction to Morphology & Syntax	3+0	None
CS100	Introduction to Computers	3+0	None
XXxxx	General Course-V	3+0	None
XXxxx	General Course-VI	3+0	None
	Total	18	

Semester IV

Code	Course Title	CrHrs	Pre-Req.
ENG204	Advanced Academic Reading & Writing	3+0	ENG104
ENG206	Semantics & Pragmatics	3+0	None
ENG207	Poetry-I	3+0	None
ENG208	Prose	3+0	None
SS221	Human Rights & Citizenship	3+0	None
XXxxx	General Course-VII	3+0	None
	Total	18	

Semester V

Code	Course Title	CrHrs	Pre-Req.
ENG302	Literary Criticism	3+0	None
ENG303	Novel-I	3+0	None
ENG304	Drama-I	3+0	None
ENG306	English Language Teaching	3+0	None
ENG307	Visionary Discourse	3+0	None
ENG310	Psycholinguistics	3+0	None
	Total	18	

Semester VI

Code	Course Title	CrHrs	Pre-Req.
ENG308	Drama-II	3+0	None
ENG309	Poetry-II	3+0	None
ENG312	Stylistics	3+0	None
ENG401	American Literature	3+0	None
ENG405	World Literature	3+0	None
SS401	Research Methodology in Literature and Linguistics	3+0	None
	Total	18	

Semester VII

Code	Course Title	CrHrs	Pre-Req.
ENG402	Translation Theory and Literary Studies	3+0	None
ENG403	Novel-II	3+0	None
ENG407	Literary Theory	3+0	None
ENGxxx	Specialization Elective-I	3+0	None
ENGxxx	Specialization Elective-II	3+0	None
	Total	15	

Semester VIII

Code	Course Title	CrHrs	Pre-Req.
ENG404	Critical Discourse Analysis	3+0	None
ENG406	Postmodern Literature	3+0	None
ENG408	Sociolinguistics	3+0	None
ENGxxx	Specialization Elective-III	3+0	None
ENGxxx	Specialization Elective-IV	3+0	None
	Total	15	

List of General Courses

Students are required to choose 8 general courses from the above list of courses.

Code	Course	CrHrs	Pre-Requisite
SS105	Pakistan Foreign Policy	3+0	None
SS107	Introduction to Development Studies	3+0	None
SS112	International Relations	3+0	None
SS225	Chinese	3+0	None
SS204	Introduction to Political Science	3+0	None
SS216	Introduction to Sociology	3+0	None
SS218	Introduction to Psychology	3+0	None
SS240	Introduction to Logic	3+0	None
MT100	Basic Mathematics	3+0	None
MG108	Introduction to Management	3+0	None
MG403	Entrepreneurship	3+0	None
MG115	Introduction to Human Resource Management	3+0	None

List of Elective Courses

Code	Course	CrHrs	Pre-Requisite
ENG410	Afro-American Literature	3+0	None
ENG411	Pakistani Literature	3+0	None
ENG412	Science Fiction & Fantasy	3+0	None
ENG413	Emerging Forms of Literature	3+0	None
ENG414	Continental Literature	3+0	None
ENG415	Teaching of Literature	3+0	None
ENG416	Literary Discourse & Journalistic Writing	3+0	None
ENG417	Postcolonial Literatures	3+0	None
ENG418	Contemporary British Literature	3+0	None
ENG419	Comparative Literatures	3+0	None
ENG420	Literature & Environment	3+0	None
ENG421	Shakespearian Studies	3+0	None
ENG422	Media and Cultural Studies	3+0	None
ENG423	Theaters and Politics	3+0	None
ENG430	Language Teaching Methodologies	3+0	None
ENG431	Second Language Acquisition	3+0	None

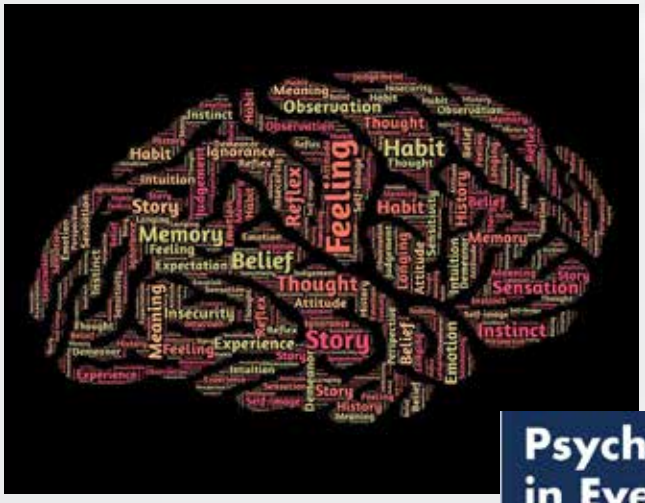
Code	Course	CrHrs	Pre-Requisite
ENG432	Translation Studies	3+0	None
ENG433	Language in Education	3+0	None
ENG434	Language and gender	3+0	None
ENG435	Anthropological Linguistics	3+0	None
ENG438	Minimalism (Syntax)	3+0	None
ENG439	Code Making, Code Breaking	3+0	None
ENG440	Indo-European linguistics	3+0	None
ENG441	Grammar and Discourse	3+0	None
ENG442	Structure Of Romance Languages	3+0	None
ENG443	Language And Social Identity	3+0	None
ENG444	Lexical Semantics	3+0	None
ENG446	Morphology and Syntax	3+0	None
ENG447	Applied Linguistics (Forensics, Clinical, Legal, eco Linguistics)	3+0	None
ENG448	Computer Assisted Language Learning	3+0	None
ENG449	Corpus Linguistics	3+0	None
ENG450	Computational Linguistics	3+0	None

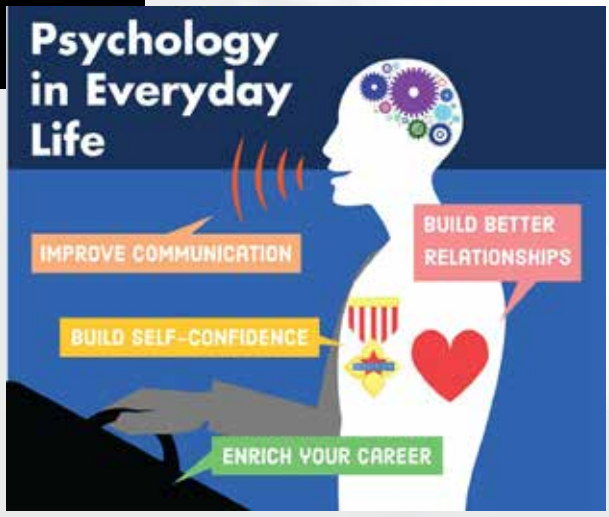
**Thesis/ Research Project can be taken by students with a CGPA of 3.0 or above. Students doing a thesis/research project are required to take only 2 specialization elective courses instead of 4*

BS Psychology

The BS English is 8 semesters (4 years) program offered by the department of Management and Social Sciences. The BS Psychology program integrates the scientific foundation of psychology with a strong background of humanities and basic sciences to better prepare students for the advanced training in psychology, medicine, cognitive science, neuroscience, and other related disciplines.

This degree can lead to a wide range of careers. They can go on to work as a psychologist, advertising manager, admission and career counsellor, psychiatrist, child welfare worker, gerontologist, market research analyst, public relations manager, social worker, speech pathologist, or numerous other occupations. Many progress to related postgraduate courses.





Semester Plan

Semester I

Code	Course	CrHrs	Pre-Requisite
SS104	English-I (Comprehension)	3+0	None
SS118	Pakistan Studies	2+0	None
MT100	Basic Mathematics	3+0	None
CS100	Introduction to Computing	3+0	None
PSY101	Introduction to Psychology	3+0	None
XXxxx	General Elective-I	3+0	None

Semester II

Code	Course	CrHrs	Pre-Requisite
SS203	English-II (Communication Skills)	3+0	SS104
SS108	Islamic Studies/Ethics	2+0	None
MT205	Introduction to Statistics	3+0	None
PSY102	History and Schools of Psychology	3+0	None
XXxxx	General Elective-II	3+0	None
XXxxx	General Elective-III	3+0	None

Semester III

Code	Course	CrHrs	Pre-Requisite
SS211	English-III (Technical Report Writing)	3+0	SS203
MG308	Business Law	3+0	None
PSY201	Neurological Basis of Behavior	3+0	None
PSY203	Personality Theories-I	3+0	None
XXxxx	General Elective-IV	3+0	None
XXxxx	General Elective-V	3+0	None

Semester IV

Code	Course	CrHrs	Pre-Requisite
PSY204	Introduction to Social Psychology	3+0	PSY101
PSY213	Personality Theories-II	3+0	None
PSY202	Experimental Psychology	3+0	None
PSY215	Elementary Statistics for Psychology	3+0	None
SS240	Introduction to Logic	3+0	None
XXxxx	General Elective-VI	3+0	None

Semester V

Code	Course	CrHrs	Pre-Requisite
PSY301	Mental Health and Psychopathology-I	3+0	None
PSY302	Psychological Testing-I	3+0	None
PSY303	Research Methods in Psychology-I	3+0	None
PSY304	Applied Statistics for Psychology	3+0	None
PSY305	Advanced Social Psychology	3+0	None
XXxxx	General Elective-VII	3+0	None

Semester VI

Code	Course	CrHrs	Pre-Requisite
PSY311	Mental Health and Psychopathology-II	3+0	None
PSY303	Developmental Psychology	3+0	None
PSY312	Psychological Testing-II	3+0	None
PSY313	Research Methods in Psychology-II	3+0	None
PSY314	Industrial Organizational Psychology	3+0	None

Semester VII

Code	Course	CrHrs	Pre-Requisite
PSY401	Educational Psychology	3+0	None
PSY402	Positive Psychology	3+0	None
PSY403	Cross Cultural Psychology	3+0	None
PSYxxx	Elective-I	3+0	None
PSYxxx	Elective-II	3+0	None
XXxxx	Internship	3+0	None

Semester VIII

Code	Course	CrHrs	Pre-Requisite
PSY404	Cognitive Psychology	3+0	None
PSYxxx	Elective-III	3+0	None
PSYxxx	Elective-IV	3+0	None
PSY499	Research Project	0+6	None

List of General Courses

Students are required to choose 8 general courses from the above list of courses.

Code	Course	CrHrs	Pre-Requisite
SS105	Pakistan Foreign Policy	3+0	None
SS107	Introduction to Development Studies	3+0	None
SS112	International Relations	3+0	None
SS225	Chinese	3+0	None
SS204	Introduction to Political Science	3+0	None
SS216	Introduction to Sociology	3+0	None
SS208	Environmental Sciences	3+0	None
SS228	Business Communication	3+0	None
MG100	Fundamentals of Accounting	3+0	None
MG104	Microeconomics	3+0	None
MG108	Introduction to Management	3+0	None
MG115	Introduction to Human Resource Management	3+0	None
MG204	Macroeconomics	3+0	None
MG309	Principles of Marketing	3+0	None
MG222	Pakistan Economics	3+0	None
MG403	Entrepreneurship	3+0	None
MG245	Organizational Behavior	3+0	None
MG445	Project Management	3+0	None
CS121	Advanced Computer Applications for Psychology	3+0	None
PSY445	Developmental Psychotherapy	3+0	None
PSY103	Fundamentals of Biology	3+0	None

List of Elective Courses

Code	Course	CrHrs	Pre-Requisite
PSY410	Abnormal Psychology	3+0	None
PSY411	Neuroscience & Psychopathology	3+0	None
PSY412	Counseling Psychology	3+0	None
PSY413	Forensic Psychology	3+0	None
PSY414	Psycholinguistics	3+0	None
PSY415	Health Psychology	3+0	None
PSY416	Music Psychology	3+0	None

Code	Course	CrHrs	Pre-Requisite
PSY417	Indigenous Perspective in Psychology	3+0	None
MG306	Consumer Behavior	3+0	None
PSYxxx	Organizational Conflicts and Management	3+0	None
PSYxxx	Industrial/Organizational Psychology	3+0	None
PSY422	Child Development	3+0	None
PSY423	Psychology of the Adolescent	3+0	None
PSY430	Adult Development	3+0	None
PSY431	Lifespan Development	3+0	None
PSY432	Psychology of Sleep	3+0	None
PSY433	Neurobiology of Learning and Memory	3+0	None
PSY434	Developmental Neuropsychology	3+0	None
PSY435	Psychopharmacology	3+0	None
PSY438	Neurobiology & Neuropsychology of Learning Disabilities	3+0	None
PSY439	Culture and Psychology	3+0	None
PSY440	Personality Development	3+0	None
PSY441	Psychological Perspectives on Criminal Behavior	3+0	None
PSY442	Psycho-educational Assessment of Disabilities	3+0	None
PSY443	Clinical Neuropsychology	3+0	None
PSY444	Memory and Amnesia	3+0	None
PSY446	Psychology of Language	3+0	None
PSY447	Language & Conceptual Development	3+0	None
PSY448	Psychology of Emotion	3+0	None
PSY449	Behavior Modification	3+0	None
PSY450	Psychology and the Law	3+0	None

BS Tourism and Hospitality Management

Due to growing need of tourism and hospitality professionals in the country in recent years, the Department of Management of Social Sciences offers a 4-year BS program in Tourism and Hospitality Management. The curriculum has been designed to foster the knowledge and skills in the graduate who can work in this fast-changing, dynamic and highly competitive field. There are many concerns and industries that are direct contributors of the industry and hence in the long run create greater job opportunities to those who have proper qualification. A degree in Tourism and can open up career opportunities in hotels, restaurants, retailing, transportation, travel agencies, tour companies, tourist attractions, leisure, recreation and sport, and cultural industries.

Program Educational Objectives (PEOs)

The graduates of the BS Tourism and Hospitality Management program are expected to:

1. Be able to use knowledge and skills in pursuance of a successful career in tourism and hospitality industry, research, teaching and other related areas.
2. Keep abreast with current developments and issues in tourism and hospitality and engaged in life-long learning.
3. Contribute positively to society through responsible, professional, and ethical practice in pursuance of their career and research.

Program Learning Outcomes (PLOs)

Upon successful completion of the degree in Hospitality and Tourism Management, students should be able to:

1. Demonstrate an understanding of the scope and fundamental principles of hospitality and tourism products and issues
2. Demonstrate an understanding of general and specific approaches to operation and management of hospitality industry, food and beverage service, travel, tourism, and exhibitions businesses and management.
3. Use knowledge and skills associated with problem solving appropriate for the discipline.
4. Critically and scientifically evaluate hospitality and tourism business issues and to develop solutions from the moral, professional, and academic perspectives.
5. Analyze and solve problems, using appropriate tools and technology.
6. Apply their knowledge of management, planning, staffing, and controlling to

organizations and business activities.

7. Analyze and evaluate environmental and environmental sustainability's impact on industry activities.
8. Function effectively in a team by assuming different roles and demonstrating effective leadership qualities and project management skills to accomplish a common goal towards a significant project.
9. Conduct him/herself in a professional and ethical manner, and practice industry-defined work ethics.
10. Communicate effectively both verbally and in writing with a range of audiences.
11. Engage in continuing professional development and life-long learning.

Semester Plan

Semester I

Code	Course	CrHrs	Pre-Requisite
SS104	English-I (Functional English)	3+0	None
SS118	Pakistan Studies	2+0	None
MT100	Basic Mathematics	3+0	None
MG207	Principles of Management	3+0	None
SSxxx	Cultural History of Pakistan	3+0	None
TH116	Introduction to Tourism & Hospitality	3+0	None

Semester II

Code	Course	CrHrs	Pre-Requisite
SS203	English-II	3+0	SS104
CS100	IntroductiontoComputer	3+0	None
SSxxx	Introduction to Archaeology	3+0	None
SS218	Introduction toPsychology	3+0	None
SS108	Islamic Studies/Ethics	2+0	None
TH126	Pakistan–TouristDestinations	3+0	None

Semester III

Code	Course	CrHrs	Pre-Requisite
SS211	English-III	3+0	None
TH212	Sustainable Tourism	3+0	TH116
SS213	Introduction to Sociology	3+0	None
MGxxx	Organizational and Consumer Behavior	3+0	None
TH215	Cultural Tourism	3+0	None

Semester IV

Code	Course	CrHrs	Pre-Requisite
MT205	Business Statistics	3+0	None
TH222	Hospitality Operations	3+0	None
SSxxx	Public Relations	3+0	None
TH244	House Keeping Operations and Management	3+0	None
TH223	Tourism Geography	3+0	None

Semester V

Code	Course	CrHrs	Pre-Requisite
TH311	Tourism Management	3+0	None
TH312	Tourism and Hospitality Laws	3+0	None
TH313	Front Office Operations and Management	3+0	None
TH314	Tourism: Concepts and Principles	3+0	None
TH315	Tourism Marketing	3+0	None
TH316	Heritage Management	3+0	None

Semester VI

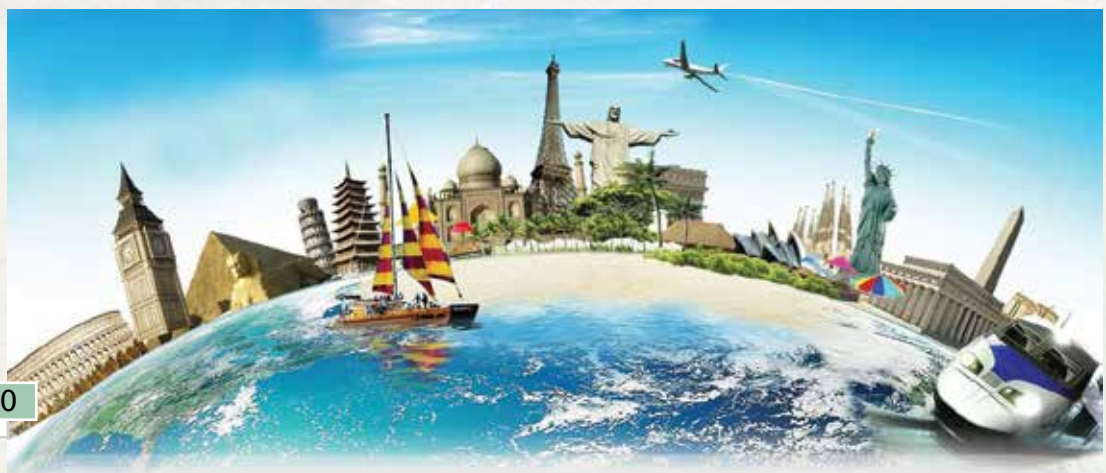
Code	Course	CrHrs	Pre-Requisite
TH321	Event Management	3+0	None
SSxxx	Logic &Critical Thinking	3+0	None
TH323	Sacred/ReligiousTourism	3+0	None
TH324	Travel &TourOperations	3+0	None
TH325	SportsandAdventureTourism	3+0	None
MG445	ProjectManagement	3+0	None

Semester VII

Code	Course	CrHrs	Pre-Requisite
TH411	Restaurant Management	3+0	None
TH412	AccountingandFinance	3+0	None
TH413	TourismPlanningandDevelopment	3+0	None
TH414	CulinaryArt	3+0	None
TH498	Project-I	0+3	None

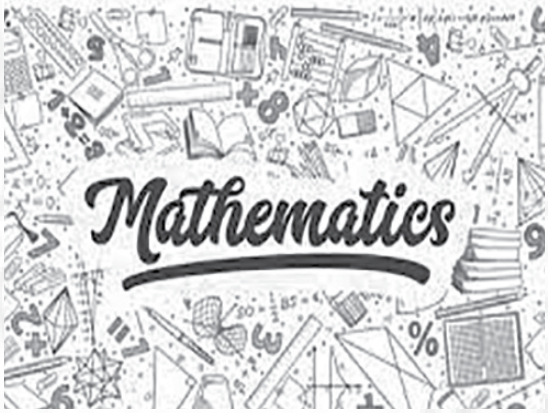
Semester VIII

Code	Course	CrHrs	Pre-Requisite
TH499	Project-II	0+3	None
TH422	Emerging Trends in Tourism and Hospitality	3+0	None
TH423	HumanResourceManagement	3+0	None
TH424	DestinationBranding	3+0	None
TH425	TourismandPeace	3+0	None



Department of Mathematics and Statistics

Introduction



Mathematics and statistics are exciting and challenging subjects and have numerous applications in all the fields of science, engineering, computing and social sciences. The department aims to pursue excellence in mathematics and statistics through quality teaching and research. The department not only offers undergraduate programs in mathematics and statistics but also offer mathematics and statistics courses in different degree programs at the campus.

BS in Mathematics

Limited access of poor people to quality education in Mathematics and increasing rate of unemployment has resulted in many socio-economic problems in the country. We strongly believe that using modern mathematical techniques and the targeting market and industrial needs, BS Mathematics program can produce more positive result. We will provide a successful BS Mathematics Program for community development at Abasyn University which will prove itself fruitful by bringing the change in the society.

Semester Plan

Semester I

Code	Course	CrHrs	Pre-Requisite
MT112	Calculus-I	4+0	None
MT120	Mathematical Thinking	3+0	None
SS104	English-I (Comprehension)	3+0	None
CS100	Introduction to Computing	2+1	None
ECO101	Introduction to Economics	3+0	None
SS118	Islamic Studies/Ethics	2+0	None

Semester II

Code	Course	CrHrs	Pre-Requisite
MT114	Calculus–II	4+0	MT112
MT221	Linear Algebra	4+0	None
NS109	Applied Physics-I	2+1	None
CS106	Introduction to Computer Programming	3+1	CS100
SS118	Pakistan Studies	2+0	None

Semester III

Code	Course	CrHrs	Pre-Requisite
MT217	Calculus-III	4+0	MT114
MT-212	Advanced Linear Algebra	3+0	MT221
ST101	Introduction to Statistics	3+0	None
CS116	Computing Tools for Mathematics	1+1	None
NS219	Applied-Physics-II	2+1	NS109
SS203	English-II (Communication Skills)	3+0	SS104

Semester IV

Code	Course	CrHrs	Pre-Requisite
MT223	Real Analysis	3+0	None
MT224	Introduction to Topology	3+0	None
MT225	Affine and Euclidean Geometry	3+0	None
SS216	Introduction to Sociology	3+0	None
SS211	English-III (Technical Report Writing)	3+0	SS203
MT228	Elements of Set theory and Mathematical Logic	3+0	None

Semester V

Code	Course	CrHrs	Pre-Requisite
MT320	Functional Analysis	3+0	None
MT321	Complex Analysis	3+0	None
MT322	Ordinary Differential Equations	3+0	None
MT323	Group Theory	3+0	None
MT324	Numerical Methods	3+1	None

Semester VI

Code	Course	CrHrs	Pre-Requisite
MT331	Partial Differential Equations	3+0	None
MT332	Classical Mechanics	3+0	None
MT333	Differential Geometry	3+0	None
MT334	Probability Theory	3+0	None
MT335	Special Functions and Transform	3+0	None

Semester VII

Code	Course	CrHrs	Pre-requisite
MT411	Numerical Analysis	3+0	None
MT412	History of Mathematics	3+0	None
MT413	Riemannian Geometry	3+0	None
MT414	Theory of Ring and Field	3+0	None
MTxxx	Final year Project Or Elective Course	3+0	None

Semester VIII

Code	Course	CrHrs	Pre-Requisite
MT411	Numerical Analysis	3+0	None
MT412	History of Mathematics	3+0	None
MT413	Riemannian Geometry	3+0	None
MT414	Theory of Ring and Field	3+0	None
MTxxx	Final year Project Or Elective Course	3+0	None

BS Statistics

Department of Mathematical and Statistical Sciences is offering a 4-years BS degree program in Statistics. Program has been designed according to the scheme of studies approved by the Higher Education Commission (HEC) of Pakistan to assure the quality education to equalize it with national and international standards. Department has offered a variety of courses to have the benefit of a flexible curricular program. The program aims to produce quality students who are able to prepare themselves for advance studies, teaching and research in statistics as well as careers in other related disciplines. In this regard Mathematics department will provide them with possible facilities and guidance.

Semester Plan

Semester I

Code	Course	CrHrs	Pre-Requisite
MT112	Calculus-I	3+0	None
ST101	Introduction to Statistics	3+0	None
SS104	English-I (Comprehension)	3+0	None
CS100	Introduction to Computing	2+1	None
ECO101	Introduction to Economics	3+0	None
SS118	Islamic Studies/Ethics	2+0	None

Semester II

Code	Course	CrHrs	Pre-Requisite
MT114	Calculus–II	3+0	MT112
MT231	Discrete Mathematics	3+0	None
SS206	Business Ethics	3+0	None
ST116	Introduction to Probability	3+0	None
MT221	Linear Algebra	3+0	None
SS118	Pakistan Studies	2+0	None

Semester III

Code	Course	CrHrs	Pre-Requisite
MT211	Calculus-III	3+0	MT114
ST210	Basic Statistical Inference	3+0	ST116
ST212	Operational Research	3+0	None
SS203	English-II (Communication Skills)	3 +0	SS104
SS244	International Relation	3+0	None

Semester IV

Code	Course	CrHrs	Pre-Requisite
ST220	Applied Statistics	3+0	ST101
ST221	Introduction to Regression Analysis and Experimental Design	3+0	None
ST224	Multivariate Analysis-I	3+0	None
SS216	Introduction to Sociology	3+0	None
SS211	English-III (Technical Report Writing)	3+0	None
MG207	Principles of Management	3+0	None

Semester V

Code	Course	CrHrs	Pre-Requisite
ST301	Probability Distribution-I	3+0	None
ST303	Sampling Technique-I	4+0	None
ST304	Design & Analysis of Experiment-I	4+0	None
ST302	Regression Analysis	3+0	None
MG403	Entrepreneurship	3+0	None

Semester VI

Code	Course	CrHrs	Pre-Requisite
ST311	Probability Distribution-II	3+0	ST301
ST312	Sampling Technique-II	4+0	ST303
ST313	Design & Analysis of Experiment-II	4+0	ST304
ST314	Econometrics	3+0	None
STxxx	Elective-I	3+0	None

Semester VII

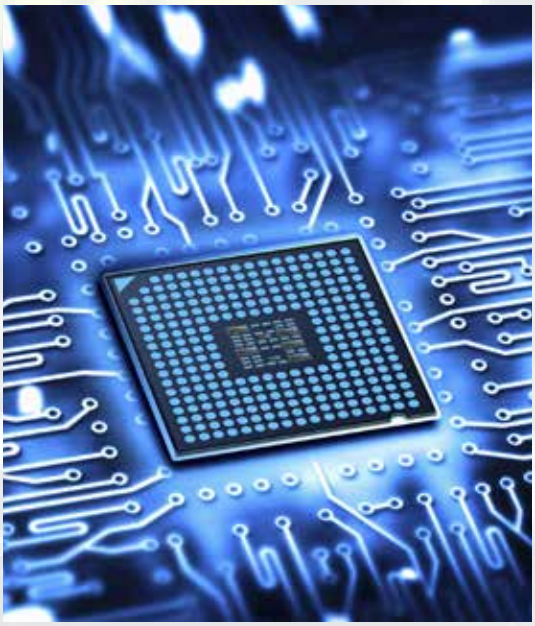
Code	Course	CrHrs	Pre-Requisite
ST401	Applied Multivariate Analysis	3+0	None
ST402	Time Series Analysis	3+0	None
ST403	Statistical Inference-I	3+0	None
STxxx	Final Year Project/Elective Course	3+0	None
STxxx	Elective-II	3+0	None

Semester VIII

Code	Course	CrHrs	Pre-Requisite
ST411	Statistical Inference-II	3+0	ST403
ST412	Statistical Package	2+1	None
STxxx	Elecltive-III	3+0	None
STxxx	Elective-IV	3+0	None
STxxx	Final Year Project/Elective Course	3+0	None

Department of Electronics

The Department of Electronics is developed along the modern lines which are tailored to impart and strengthen the students' knowledge and skills in electronics and its related specialities. The Department has excellent teaching and learning facilities available to the students and faculty. The students in the department enjoy a friendly and scholarly environment. They are encouraged to participate in various academics, sports and extra-curricular activities. Presently, the Department offers a 4-year BS program in Electronics.



BS Electronics

The recent growth in Electronics industry and the demand of state of the art electronic equipment invokes the need of skilled professionals in the field of Electronics. In this regard the Department of Electronics offers a 4-year BS program in Electronics. The curriculum of BS Electronics is designed to inculcate the required knowledge and skills in the prospective learners who can cope with the fast growing field of electronics. The educational objectives and learning outcomes of the proposed program will not only equip the prospective students with the required industrial skills but also open career opportunities in the field of electronics, telecommunication companies, wireless communication, RADAR systems, Satellite communication, mobile phone manufacturing and so on and so forth.

Program Educational Objectives (PEOs)

The graduates of the BS Electronics program are expected to:

1. exhibit sufficient hands-on skills and problem-solving mindset, in order to contribute effectively in the profession.
2. exhibit good communication skills, ethical behavior and effective leadership to become a responsible professional of the society.

Program Learning Outcomes (PLOs)

The graduate of BS Electronics, at the time of graduation are expected to have the following attributes and outcomes:

1. Ability to apply knowledge of mathematics and sciences in the field

of electronics.

2. Ability to identify scientific problems, as well as to analyze and interpret data
3. Ability to formulate or design electronic systems as well as to solve problems related to the discipline
4. Ability to use the techniques, skills, and modern scientific tools necessary for professional practice
5. Ability to function effectively in multidisciplinary teams
6. Ability to apply ethical principles and commit to professional ethics and responsibilities
7. Ability to communicate effectively both verbally and in writing
8. Ability to understand the impact of scientific solutions in a global and societal context
9. Ability to recognize importance and engagement in lifelong learning
10. Ability to demonstrate effective leadership and decision-making skills.

Semester Plan

Semester I

Code	Course	CrHrs	Pre-Requisite
SS104	English I (Functional English)	3+0	None
CS100	Introduction to Computing	2+1	None
MT101	Calculus and Analytical Geometry	3+0	None
NS115	Physics-I	3+1	None
SS108	Islamic Studies/Ethics	2+0	None

Semester II

Code	Course	CrHrs	Pre-Requisite
SS203	English II (Communication Skills)	3+0	SS104
EL120	Circuit Theory-I	3+1	None
MT118	Differential Equations	3+0	None
NS116	Physics-II	3+0	NS115
EL121	Solid State Electronics	3+0	NS115
SS118	Pakistan Studies	2+0	None

Semester III

Code	Course	CrHrs	Pre-Requisite
SS211	English-III (Technical Report Writing)	3+0	SS203
EL210	Basic Electronics	3+1	None
EL210	Circuit Theory-II	3+1	EL1120
MT214	Complex Variables and Transforms	3+0	None
CS229	Computer Programming	2+1	CS100

Semester IV

Code	Course	CrHrs	Pre-Requisite
EL223	Signals and Systems	3+1	MT214
EE200	Digital Logic Design	3+1	CS100
EE224	Electronic Circuit Design	3+1	EL210
MT221	Linear Algebra	3+0	None
MG245	Organizational Behavior	3+0	None

Semester V

Code	Course	CrHrs	Pre-Requisite
EL310	Integrated Circuits	3+0	EE200
EL312	Microprocessors and Microcontrollers	3+1	EE200
MT313	Probability and Random Variables	3+0	None
EL314	Instrumentation and Measurements	3+1	EL210
EL316	Linear Control Systems	3+1	EL223

Semester VI

Code	Course	CrHrs	Pre-Requisite
EL321	Electromagnetic Field Theory	3+0	NS116
EL322	Communication Systems	3+1	None
EL323	Digital Signal Processing	3+1	EL223
EL324	Embedded System Design	3+1	EL312
MG436	Entrepreneurship	3+0	None

Semester VII

Code	Course	CrHrs	Pre-Requisite
EL410	VLSI Design	3+0	EL310
EL412	Data Communication and Networks	3+1	EL322
EL4xx	Elective-I	3+1	None
EL4xx	Elective-II	3+0	None
EL498	Project-I	0+3	None

Semester VIII

Code	Course	CrHrs	Pre-Requisite
EL421	Microwave Electronics	3+1	EE224
EL4xx	Elective-III	3+1	None
EL4xx	Elective-IV	3+0	None
EL499	Project-II	0+3	EL498
STxxx	Final Year Project/Elective Course	3+0	None

List of Elective Courses

Code	Course	CrHrs
EL411	Industrial Electronics	3+0
EL412	Solid State Devices	3+0
EL413	Digital Electronics	3+1
EL414	Industrial Automation	3+0
EL415	Power Electronics	3+1
EL416	Opto-electronics	3+0
EL417	Laser and Fiber Optics	3+0
EL418	Nanotechnology	3+0
EL423	Antennas & Wave Propagation	3+1
EL419	RF and Microwave Devices and Circuits	3+1
EL421	Digital Design	3+1
EL422	Artificial Intelligence	3+0
EL423	Pattern Recognition	3+0
EL424	Digital Control Systems	3+0
EL425	Digital Image Processing	3+1
EL426	Wireless Communication	3+0
EL427	Satellite Communication	3+0
EL428	Digital Communication	3+1

Department of Engineering Technology

Introduction

Department of Engineering Technology offers 4-year BSc Engineering in civil, electrical and mechanical technologies. Equipped with state-of-the-art laboratories and qualified faculty, the technology programs aim at pro-viding strong practical skills with theoretical back ground to enable student to pursue successful careers in their respective fields.

B.Sc Civil Engineering Technology

The B.Sc Civil Engineering Technology program has been carefully designed to enable graduates to undertake planning, designing, construction, operation and maintenance of urban and rural infrastructure by applying his/her knowledge in all stages of Civil Engineering projects. The students are extensively exposed to the real civil engineering projects that equip them to work in an industrial environment.

B.Sc Civil Engineering Technology is a 4 years (139 credit hours) program with an average work load of 15-18 credit hours per Semester.

Program Educational Objectives (PEOs)

The graduates of BSc. Civil Engineering Technology will:

PEO-1: Engage in civil technology profession based upon their knowledge and technical skills, with global, societal and sustainable perspectives.

PEO-2: Demonstrate high professional ethics, obligations, responsibility, effective communication, teamwork and good leadership in their professional career.

PEO-3: Engage in professional development by pursuing higher studies, independent learning in specialist Civil Engineering Technology or other opportunities to achieve professional excellence while economically contributing towards the society.

Program Learning Outcomes (PLOs)

PLO1: Engineering Technology Knowledge:

An ability to apply knowledge of mathematics, natural science, Engineering Technology fundamentals and Engineering Technology specialization to defined and applied Engineering Technology procedures, processes, systems or methodologies.

PLO2: Problem Analysis:

An ability to Identify, formulate, research literature and analyze broadly-defined Engineering Technology problems reaching substantiated conclusions using analytical tools appropriate to the discipline or area of specialization.

PLO3: Design/Development of Solutions:

An ability to design solutions for broadly- defined Engineering Technology problems and contribute to the design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

PLO4: Investigation:

An ability to conduct investigations of broadly-defined problems; locate, search and select relevant data from codes, data bases and literature, design and conduct experiments to provide valid conclusions.

PLO5: Modern Tool Usage:

An ability to Select and apply appropriate techniques, resources, and modern technology and IT tools, including prediction and modelling, to broadly-defined Engineering Technology problems, with an understanding of the limitations.

PLO6: The Engineering Technologist and Society:

An ability to demonstrate understanding of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to Engineering Technology practice and solutions to broadly defined Engineering Technology problems.

PLO7: Environment and Sustainability:

An ability to understand and evaluate the sustainability and impact of Engineering Technology work in the solution of broadly defined

Engineering Technology problems in societal and environmental contexts.

PLO8: Ethics:

Understand and commit to professional ethics and responsibilities and norms of Engineering Technology practice

PLO9: Individual and Team Work:

An ability to Function effectively as an individual, and as a member or leader in diverse teams.

PLO10:Communication:

An ability to communicate effectively on broadly defined Engineering Technology activities with the Engineering Technologist community and with society at large, by being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PLO11:Project Management:

An ability to demonstrate knowledge and understanding of Engineering Technology management principles and apply these to one's own work, as a member or leader in a team and to manage projects in multidisciplinary environments.

PLO12:Lifelong Learning:

An ability to recognize the need for, and have the ability to engage in independent and life-long learning in specialist Engineering Technologies.

Semester Plan

Semester I

Code	Course Title	CrHrs	Pre- Requisite
CT-154	Materials and Methods of Construction	2+2	None
CT-114	Civil Engineering Drawing	1+3	None
CT-144	Applied Mechanics	2+2	None
CT-121	Calculus -I	3	None
CH-113	Islamic Studies	2	None

Semester II

Code	Course Title	CrHrs	Pre- Requisite
CT-124	Concrete Technology	2+2	None
CT-134	Surveying	2+2	None
CH-131	Pakistan Studies	1	None
CH-114	English-I	3	None
CS-124	Computer Applications	2+1	None

Semester III

Code	Course Title	CrHrs	Pre- Requisite
CT-244	Mechanics of Solid	2+2	None
CT-214	Quantity Surveying and Contract Documents	1+3	None
CT-224	Soil Mechanics	2+2	None
CT-234	Fluid Mechanics	2+2	None
CS-213	Calculus - II	3	None

Semester IV

Code	Course Title	CrHrs	Pre- Requisite
CT-254	Transportation Engineering	2+2	None
CT-264	Water supply and waste water Management	2+2	None
CT-214	Environmental Management	2+1	None
CT-273	Theory of Structures	1+3	None
CM-221	Occupational Health and Safety	1	Nonei
CH-212	English-III	3	None

Semester V

Code	Course Title	CrHrs	Pre- Requisite
CT-314	Hydrology	2+2	None
CT-324	Reinforced Concrete Structures	2+2	None
CT-333	Construction and Hydraulic Machinery	2+1	None
CT-344	Computer Aided Building Modeling and Design	1+3	None
CT-353	Foundations Engineering	2+1	None

Semester VI

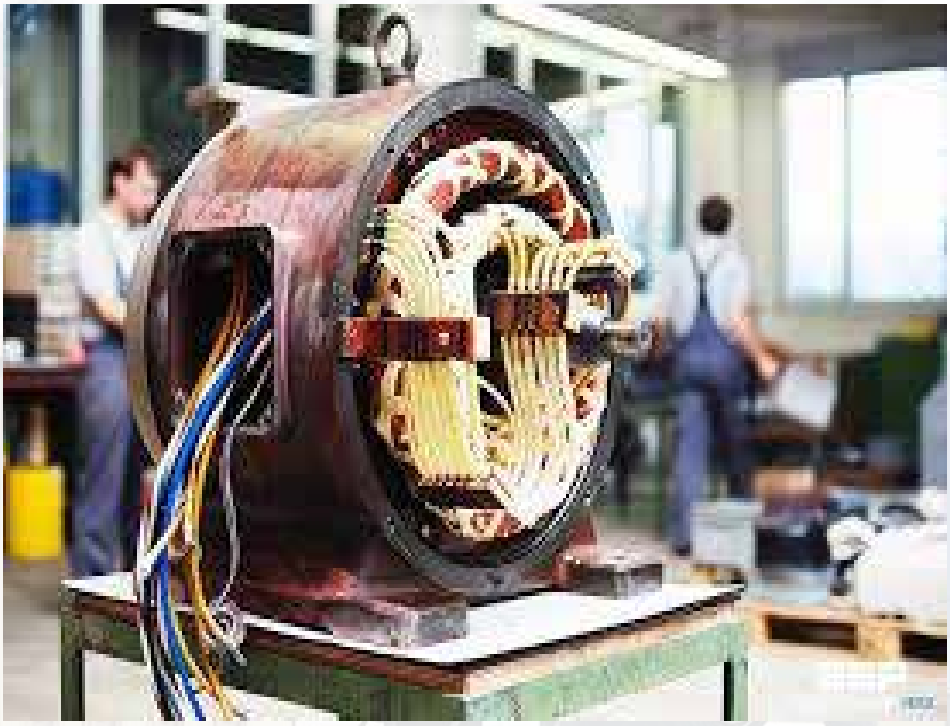
Code	Course Title	CrHrs	Pre- Requisite
CT-363	Pre-Stressed & Precast Concrete	2+1	None
CT-373	Geology and Earthquake Engineering	2+1	None
CT-383	Irrigation and Hydraulic Structures	2+1	None
CT-393	Steel Structures	2+1	None
CM-313	Project Management	2+1	None

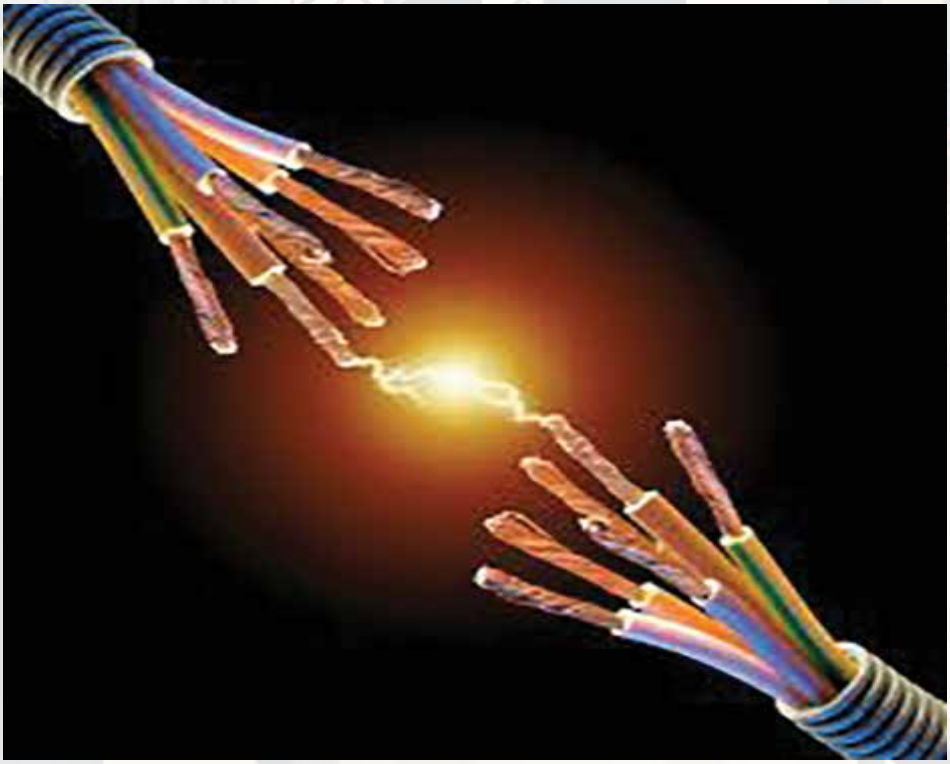
Semester VII

Code	Course Title	CrHrs	Pre- Requisite
CT 4115	Supervised Training Program – I	15	None
CT 393	Project -I	3	None

Semester VIII

Code	Course Title	CrHrs	Pre- Requisite
CT4216	Supervised Training Program - II	15	None
CT 394	Project -II	3	None





B.Sc Electrical Engineering Technology

The BSc Electrical Engineering Technology program has been carefully designed to enable graduates to undertake operation and maintenance of electrical appliances by applying his/her knowledge in all stages of Electrical Engineering projects. The students are extensively exposed to the real electrical engineering projects that equip them to work in an industrial environment.

BSc Electrical Engineering Technology is a 4 years (137 credit hours) program with an average work load of 15-18 credit hours per Semester.

Program Educational Objectives (PEOs)

The graduates of BSc. Electrical Engineering Technology will:

PEO-1: Show professional competence in Electrical Engineering Technology by demonstrating technical skills and design of solutions with global and sustainable perspectives.

PEO-2: Show the utilization of knowledge and skills of modern tools and technologies in electrical engineering technology.

PEO-3: Follow ethical and social aspects, while under taking technical task(s), individually or via interdisciplinary team work.

PEO-4: Demonstrate continued professional development through pursuit of higher education, participation and membership in professional organization and/or striving for achievement of state of art of the electrical technology profession.

Program Learning Outcomes (PLOs)

PLO-1: Engineering Technology Knowledge (SA1):

An ability to apply knowledge of mathematics, natural science, Engineering Technology fundamentals and Engineering Technology specialization to defined and applied Engineering Technology procedures, processes, systems or methodologies.

PLO-2: Problem Analysis (SA2):

An ability to Identify, formulate, research literature and analyze broadly-defined Engineering Technology problems reaching substantiated conclusions using analytical tools appropriate to the discipline or area of specialization.

PLO-3: Design/Development of Solutions (SA3):

An ability to design solutions for broadly- defined Engineering Technology problems and contribute to the design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

PLO-4: Investigation (SA4):

An ability to conduct investigations of broadly-defined problems; locate, search and select relevant data from codes, data bases and literature, design and conduct experiments to provide valid conclusions.

PLO-5: Modern Tool Usage (SA5):

An ability to Select and apply appropriate techniques, resources, and modern technology and IT tools, including prediction and modelling, to broadly-defined Engineering Technology problems, with an understanding of the limitations.

PLO-6: The Engineering Technologist and Society (SA6):

An ability to demonstrate understanding of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to Engineering Technology practice and solutions to broadly defined Engineering Technology problems.

PLO-7: Environment and Sustainability (SA7):

An ability to understand and evaluate the sustainability and impact of Engineering Technology work in the solution of broadly defined Engineering Technology problems in societal and environmental contexts.

PLO-8: Ethics (SA8):

Understand and commit to professional ethics and responsibilities and norms of Engineering Technology practice

PLO-9: Individual and Team Work (SA9):

An ability to Function effectively as an individual, and as a member or leader in diverse teams.

PLO-10: Communication (SA10):

An ability to communicate effectively on broadly defined Engineering Technology activities with the Engineering Technologist community and with society at large, by being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PLO-11: Project Management (SA11):

An ability to demonstrate knowledge and understanding of Engineering Technology management principles and apply these to one's own work, as a member or leader in a team and to manage projects in multidisciplinary environments.

PLO-12: Lifelong Learning (SA12):

An ability to recognize the need for, and have the ability to engage in independent and life-long learning in specialist Engineering Technologies.

Semester Plan

Semester I

Code	Course	CrHrs	Pre- Requisite
ES-113	Calculus - I	3	None
ES-123	Applied Physics	2+1	None
ET-114	Linear Circuits Analysis	2+2	None
EH-131	Islamic Studies	1	None
ET-133	Computer Applications	1+2	None
ET-123	Engineering Drawing	1+2	None

Semester II

Code	Course	CrHrs	Pre- Requisite
ES-143	Applied Chemistry	2+1	None
EH-151	Pak-Studies	1	None
ET-144	Electronics	2+2	None
MT-153	Basic Mechanical Technology	2+1	None
ET-162	Power Generation Systems	2	None
ET-174	DC Machines &Transformers	2+2	None

Semester III

Code	Course	CrHrs	Pre- Requisite
ES-213	Calculus - II	3	None
EH-222	Communication Skills	2	None
ET-214	Electrical Instruments and Measurements	2+2	None
ET-224	AC Circuits Analysis	2+2	None
ET-234	Digital Electronics	2+2	None

Semester IV

Code	Course	CrHrs	Pre- Requisite
ET-244	AC Machines	2+2	None
ET-252	Electro-Magnetic Fields	2	None
ET-263	Electrical Power Transmission	2+1	None
ET-273	Electrical Power Distribution and Utilization	2+1	None
ET-284	Power Electronics	2+2	None

Semester V

Code	Course	CrHrs	Pre- Requisite
ET-313	Micro-Processor Theory and Interfacing	2+1	None
ET-323	Switch Gear & Protective Devices	2+1	None
ET-334	Communication Technology	2+2	None
ET-343	Control Technology	2+1	None
EH312	Total Quality Management	2	None
HUM-402	Occupational Health Safety Environment	2	None

Semester VI

Code	Course	CrHrs	Pre- Requisite
ET-353	Power System Analysis	3	None
ET-353	Data & Computer Communication	2+2	None
ET-373	High Voltage Technology	2+1	None
ET-383	Industrial Drives and PLC	2+2	None
EH-322	Technical Report Writing	2	None

Semester VII

Code	Course	CrHrs	Pre- Requisite
ET 482	Supervised Training Program - I	15	None
ET 413	Project -I	3	None

Semester VIII

Code	Course	CrHrs	Pre- Requisite
ET 483	Supervised Training Program - II	15	None
ET 414	Project -II	3	None


CKR

GRADUATE
PROGRAMS

MS English (Linguistics)

Abasyn University Islamabad Campus has launched MS English (Linguistics), an HEC approved programme, from Spring 2023 to open new door of opportunities for the undergraduates in English. The major goals of this program are to equip the graduates with tools required for analyzing interpreting and understanding languages. The programme apart from providing a broad base in the field of English (Linguistics), that is, to familiarize with the theoretical frameworks developed in various subfields of Linguistics also aims to arm the graduates with research skills which would allow them to undertake research in different aspects of language. The research skills thus inculcated will strengthen the research culture in the country as well as research-informed decision making. The program covers all the major aspects of Linguistics including syntax, phonology, morphological, pragmatics and semantics etc. The programme is structured with a view to opening career prospects for the graduates in diverse fields.

Summary of the program

Total number of credit hours 30

(By research: 24 + 6 Cr. Hrs)
(By course work: 30 Cr. Hrs)

Duration:
Minimum 1.5 years to 4 years

Semester duration:
16-18 weeks

Maximum Course load per semester:

6- 12 credit hours

Degree Requirement CGPA: 2.5

Assessment: The thesis will externally and internally be evaluated.

Semester Plan

Semester I

Code	Course	CrHrs
ENG701	Research Methods in Linguistics	3+0
ENG7XX	Elective-I	3+0
ENG7XX	Elective-II	3+0
ENG7XX	Elective-III	3+0
	Total	**12**

Semester II

Code	Course	CrHrs
ENG702	Linguistics Theories	3+0
ENG7XX	Elective-IV	3+0
ENG7XX	Elective-V	3+0
ENG7XX	Elective-VI	3+0
	Total	**12**

Semester III & IV

Code	Course	CrHrs
ENG799	Thesis*	06
	Total	**06**

*Students taking course work option will take 6 credit hour courses in lieu of Thesis from the elective courses given below.

List of Elective Courses

Code	Course	CrHrs
ENG710	Anthropological Linguistics	3+0
ENG711	Bilingualism	3+0
ENG712	Feminist Linguistic Theories: Methodology and Practice	3+0
ENG713	Emerging Trends in Sociolinguistics	3+0
ENG714	English for Specific Purposes (ESP)	3+0
ENG715	Language and Media	3+0
ENG716	Descriptive Linguistics	3+0
ENG717	Morphological Theories	3+0
ENG718	Phonetics and Phonology	3+0
ENG720	Pragmatics	3+0
ENG721	Second Language Acquisition	3+0
ENG719	Semantics	3+0
ENG722	Psycholinguistics	3+0
ENG723	Advanced Syntax	3+0
ENG724	Testing and Evaluation	3+0
ENG725	Translation Studies	3+0
ENG726	World Englishes	3+0
ENG731	Human Language and Digital Technology	3+0
ENG732	Approaches to Discourse Analysis	3+0
ENG733	Perspectives in Corpus Linguistics	3+0
ENG727	Applied Grammar & Syntax	3+0
ENG728	Discourse Studies	3+0
ENG734	Language, Power and Identity	3+0
ENG741	Latest Trends in Linguistics	3+0
ENG742	Narratology	3+0
ENG743	Psycho-Neurolinguistics	3+0
ENG744	Advanced Stylistics	3+0
ENG735	Systematic Functional Linguistics	3+0
ENG736	Critical Discourse Analysis	3+0
ENG737	Genre Analysis	3+0
ENG738	Issues in Syntax	3+0
ENG739	Applied Linguistics	3+0
ENG747	Multilingualism	3+0
ENG742	Cross-cultural communication	3+0
ENG743	Theoretical Phonology	3+0
ENG744	Language Program Management	3+0
ENG745	Theoretical Foundations of Morphology	3+0
ENG746	Cognitive Linguistics	3+0
ENG748	Advanced Phonetics	3+0
ENG799	Thesis	06

MS Computer Sciences (MSCS)

MS in Computer Science, offered by the department of the computing, is an advanced degree program in the area of computer sciences. The program is aimed at preparing students for advanced and research oriented jobs in the area. Most of the courses in this program are designed in such a way that students are required to exhibit high level skills in research activities. Apart from core courses, students are also required to take courses from one of the specialization areas of their own choice to fulfill the requirements of MS degree.

Program Structure

Category	CrHrs	Remarks
Core Courses	12	Core courses are compulsory. A list of core courses is provided as per the HEC criteria.
Elective Courses	12	Students are required to take four elective courses. The students may specilzied in one of the ares of computer science by taking apporiatate elective courses.
Thesis	06	Intensive research to be conducted under the supervision of a faculty member.
Total	30	

Area of Specialization

- Computer Networking
- Databases and Web Technologies
- Software Engineering
- Mobile Computing
- Artificial Intelligence and Image Processing

Core Courses

Code	Course	CrHrs	Remarks
CS602	Advance Theory of Computations	3+0	Any four (4) courses
CS603	Advanced Computer Architecture	3+0	
CS605	Advanced Operating Systems	3+0	
CS614	Theory of Programming Languages	3+0	
CS617	Advance Design & Analysis of Algorithms	3+0	
CS601	Research Methodology	3+0	Compulsory for thesis students

Semester Plan

Semester I

Code	Course	CrHrs
CS6xx	Core Course-I	3
CS6xx	Core Course-II	3

Semester II

Code	Course	CrHrs
CS6xx	Core Course-III	3
CS6xx	Core Course-IV	3
CS6xx	Elective-I	3

Semester III

Code	Course	CrHrs
CS6xx	Elective-II	3
CS6xx	Elective-III	3
CS698	Thesis-I	3

Semester IV

Code	Course	CrHrs
CS5xx	Elective-III	3
CS699	Thesis-II	3

Elective Courses

Code	Course	CrHrs
CS628	Advanced Programming	3
CS629	Mathematical Methods in Computing	3
CS633	Advanced Computer Networks	3
CS634	Application Development for Mobile Devices	3
CS635	Advanced Web Technologies	3
CS639	Cloud Computing	3
CS640	Advance Computational Techniques	3
CS641	Information Theory	3
CS642	Fuzzy Logic	3
CS643	Genetic Algorithms	3
CS644	Advanced Digital Signal Processing	3
CS712	Advance Network Security	3
CS706	Advanced Artificial Neural Networks	3
CS713	Advance Digital Image Processing	3
CS714	Pattern Recognition & Computer Vision	3
CS715	Advance Bio Medical Signal Processing	3
SE612	Object-Oriented Software Engineering	3
SE620	Software Project Management	3
SE622	Software Quality Engineering	3
SE623	Software cost & Estimation	3
SE625	Software Risk Management	3
SE626	Software Design Patterns	3
SE627	Software Measurement and Metrics	3
SE630	Personal Software Process	3
SE633	Agile Software Development	3
SE636	Machine Learning Applications in Software Engineering	3
SE701	Formal Methods in Software Engineering	3

**This list of electives is not exhaustive. The list of elective courses may be revised as per requirement*

MS Data Science (MSDS)

The MS (DS) program has been designed to give students the option to be part of a data science endeavor that begins with the identification of business processes, determination of data provenance and data ownership, understanding the ecosystem of the business decisions, skill sets and tools that shape the data, making data amenable to analytics, identifying sub-problems, recognizing the technology matrix required for problem resolution, creating incrementally-complex data-driven models and then maintaining them to ultimately leverage them for business growth.

Program Structure

Category	CrHrs	Remarks
Core Courses	9	Core courses are compulsory. A list of three core courses is provided as per the HEC criteria.
Specialization Courses	6	Two specialozation core courses as per HEC criteria.
Elective Courses	9	Students are required to take three elective courses.
Thesis	6	Intensive research to be conducted under the supervision of a faculty member.
Total	30	

Core Courses

Code	Course	CrHrs
DS602	Statistical and Mathematical Methods for Data Science	3+0
DS603	Tools and Techniques in Data Science	2+1
DS604	Machine Learning	3+0

DS601 Research Methodology is a compulsory course for thesis students

Specialization core courses

Code	Course	CrHrs
DS605	Big Data Analytics	3+0
DS606	Deep Learning	3+0
DS607	Natural Language Processing	3+0
DS608	Distributed Data Processing	3+0

Semester Plan

Semester I

Code	Course	CrHrs
DS603	Tools and Techniques for Data Science	3
DS602	Statistical and Mathematical Methods for Data Analysis	3
CS6xx	Elective-I	3

Semester II

Code	Course	CrHrs
DS604	Machine Learning	3
CS60x	Specialization-Elective-I	3
CS60x	Specialization Elective-II	3

Semester III

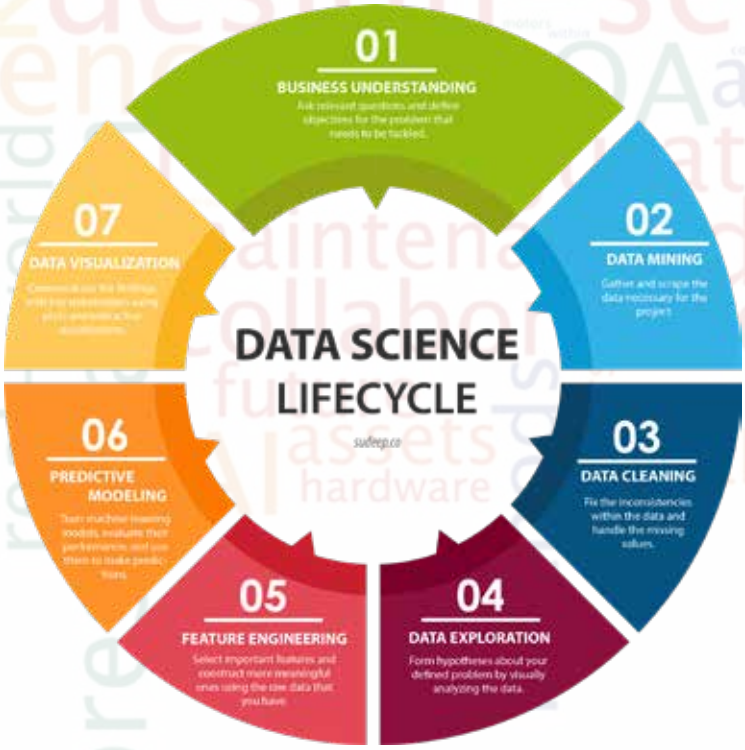
Code	Course	CrHrs
CS6xx	Elective-II	3
DS689	Thesis-I	3

Semester IV

Code	Course	CrHrs
CS5xx	Elective-III	3
DS699	Thesis-II	3

Elective Courses

Code	Course	CrHrs
DS620	Algorithmic Trading	3
DS621	Advanced Computer Vision	3
DS622	Bayesian Data Analysis	3
DS624	Bioinformatics	3
DS630	Distributed Data Processing and Machine Learning	3
DS631	High performance computing	3
DS633	Inference & Representation	3
DS635	Optimization Methods for Data Science and Machine Learning	3
DS636	Probabilistic Graphical Models	3
DS637	Scientific Computing in Finance	3
DS638	Social Network Analysis	3
DS701	Deep Reinforcement Learning	3
DS702	Time series Analysis and Prediction	3
DS703	Computational Genomics	3



MS Electrical Engineering (MSEE)

MS Electical Engineering is offered by th department of Electical Engineering. Major outcomes of the program are:

- Ability to investigate technology and tools
- Ability to design and propose new methods
- Ability to design solution to problem faced by computing and engineering industries.
- Ability to work independently
- Ability to produce impact factor research

Program Structure

MSEE curriculum is also divided into core and electives courses. A 6 CrHr thesis is compulsory part of the MSEE curriculum. All students aret required to complete thesis on individual basis. The course work of the MSEE program consists of 9 CrHr core and 15 CrHr elective and specializations courses.

Category	CrHrs	Description
Core Courses	12	Core courses are compulsory. A list of core courses is designed based on latest trend in Electrical Engineering as per the HEC criteria which will be offered to students in the initial three semesters.
Specialization/Elective/Cross Courses	12	A number of specialization areas have been identified. Relevant courses for each specialization area are listed. Student will be required to complete four courses from the chosen area and one from the cross domain.
Thesis	6	Intensive research to be conducted in this course. The University encourages Master students to publish their research work at national and international forums.
Total	**30**	

Core Courses

Code	Course	CrHrs
EE605	Advanced Engineering Mathematics	3
EE607	Research Methodology	3
EE601	Stochastic Processes	3
EE602	Advanced Digital Signal Processing	3

Semester Plan

Semester I

Code	Course	CrHrs
EExxx	Core Course-I	3+0
EExxx	Core Course-II	3+0
EExxx	Elective-I	3+0

Semester II

Code	Course	CrHrs
EExxx	Core Course-III	3+0
EExxx	Core Course-IV	3+0
EExxx	Elective-II	3+0

Semester III

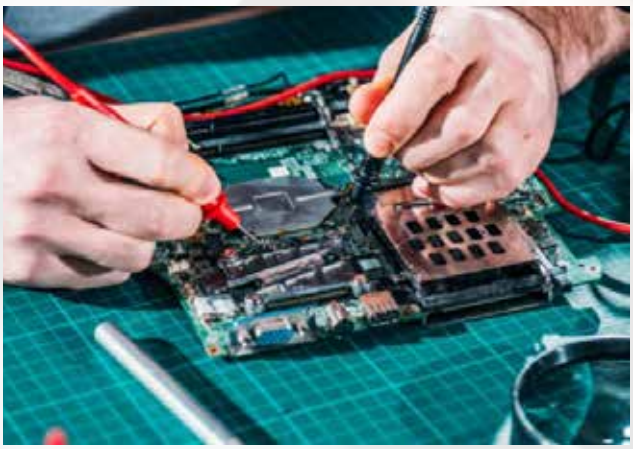
Code	Course	CrHrs
EExxx	Elective-III	3+0
EExxx	Elective-IV	3+0
EE698	Thesis-I	3+0

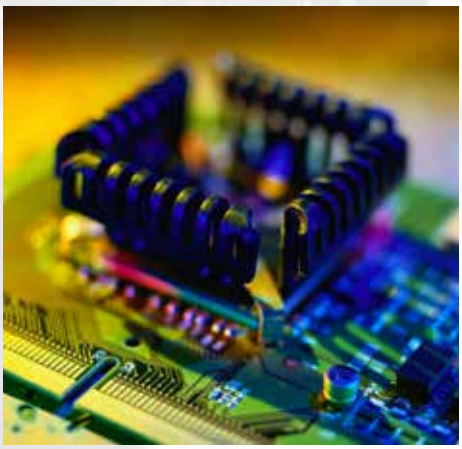
Semester IV

Code	Course	CrHrs
EE699	Thesis-II	3+0

Elective Courses

Code	Course	CrHrs
EE610	Information Coding & Theory	3
EE726	Advanced Artificial Neural Networks	3
EE614	Advance Design & Analysis of Algorithm	3
EE617	Advanced Microwave Engineering	3
EE618	Advanced Digital Image Processing	3
EE619	Antenna Theory and Design	3
EE657	Advanced Computer Architecture	3
EE658	Cryptography	3
EE646	Advance Network Security	3
EE648	Pattern Recognition & Computer Vision	3
EE651	Advanced Control Systems	3
EE652	Multivariable Feedback Control	3
EE653	Stochasitic Control Systems	3
EE654	Adaptive Control Systems	3
EE661	Advanced FPGA Based Design	3
EE664	Digital IC Design	3
EE665	Integrated Circuit Analysis and Design	3
EE671	Advanced Power System Control	3
EE675	Advanced Power Generation and Utilization	3
EE676	Power Transmission and Distribution	3
EE677	Renewable Energy Technologies and Systems	3
EE707	Advanced Electrical Power Systems	3





MS Civil Engineering (MSCE)

In order to satisfy the increasing demand for relevant advanced technological education, the Civil Engineering department at Abasyn University Islamabad is offering MS degree in Civil Engineering in different specialized fields of Civil Engineering. The courses aims to contain a balance of analytical and professional aspects and are designed to suit the needs of fresh graduates and those with professional experience. The tremendous potential for the development of Highways, Buildings and solution of Environmental problems requires the services of engineers trained to plan, design, construct, operate and maintain engineering works for the control and utilization of resources while ensuring sustainability. Most of the postgraduate students belong to the construction industry and act as a bridge for university-industry linkage that makes research in the department to be practical and useful for the country. The program allows the engineers to further enhance their engineering education through latest research. The program offers a setting in which students will get both technical success and personal advancement. The successful candidate may serve academia, industry or research etc.

Eligibility Criteria

Entry requirements for MS (Civil Engineering) at the University are:

- B.Sc./BS/BE in Civil Engineering or equivalent.
- Minimum 50% marks or 2.00 CGPA on the scale of 4.00 in qualifying degree
- GAT-General conducted by NTS (National testing Service) or University Entry Test, with minimum 50% of cumulative score.
- Foreign students will have to produce equivalence certificate at the time of admission from the Higher Education Commission, Islamabad.
- The applications of the applicants with the Bachelor's degree other than Civil Engineering will be reviewed by Civil Engineering Graduate Committee. The committee will decide eligibility and number of deficiency undergraduate courses. The students will be required to attend a so called "zero semester" to compensate the deficiencies. The obtained Credit Hours (Cr. Hrs.) in zero semester will neither be considered in MS degree nor will be claimable for any other purpose or certificate etc.
- The applications of the applicants with the Bachelor's degree other than Civil Engineering will be reviewed by Civil Engineering Graduate Committee. The committee will decide eligibility and number of deficiency undergraduate courses. The students will be required to attend a so called "zero semester" to compensate the deficiencies. The obtained Credit Hours (Cr. Hrs.) in zero semester will neither be considered in MS degree nor will be claimable for any other purpose or certificate etc.
- Foreign students will have to produce equivalence certificate at the time of

admission from the Higher Education Commission, Islamabad.

Degree Requirements

There are two choices available to complete MS degree:

Choice # 1: Thesis

- 24 Credit Hours course work (8 courses of 3 Cr. Hrs. each, which include 4 compulsory and 4 elective courses)
- 06 Credit Hours Thesis
- Total 30 Credits

Choice # 2: Non-Thesis

- 30 Credit Hours course work (10 courses of 3 Cr. Hrs. each, which include 4 compulsory and 6 elective courses)

Semester Plan

The MS Civil Engineering Program comprises of 2 years with 4 regular semesters. Like other master programs, MSCE curriculum is also divided into various categories, such as core, electives/specialization courses and thesis. The course work of the MSCE program consists of twelve Credit Hours core courses and twelve Credit Hour elective specializations courses. Six Credit Hour thesis is compulsory part of the MSCE curriculum under Choice # 1, however, in special cases a student can take two courses equivalent to 6 Cr Hr in lieu of thesis after the approval of relevant bodies. Maximum of 3 courses per semester are allowed. All students will be required to complete thesis on the individual basis. The maximum duration to complete the degree is 4 years from the date of admission

Semester Plan

Semester I

Code	Course	CrHrs
CE XXX	Core Course-1	3
CE XXX	Core Course-2	3
CE XXX	Elective Course-I	3
	Total	9

Semester II

Code	Course	CrHrs
CE XXX	Core Course-3	3
CE XXX	Elective Course-II	3
CE XXX	Elective Course-III	3
	Total	9

Semester III

Code	Course	CrHrs
CE XXX	Core Course-4	3
CE/CET XXX	Thesis / Elective course-IV	3
	Total	6

Semester IV

Code	Course	CrHrs
CE/CET XXX	Elective Course-V	3
CE/CET XXX	Thesis / Elective course-VI	3
	Total	6

Core Courses for MSCE

Core courses are compulsory requirements which must be completed by each student. Students are required to take four courses as mentioned below list.

Code	Course	CrHrs
CE 601	Pavement Structures, Materials and Design	3
CE 703	Advanced Geotechnical Engineering	3
CE 622	Advanced Concrete Technology	3
CE 628	Advanced Mechanics of Materials	3

List of Specialization and Electives for MSCE

In order to cover the deficiency of students, various important courses are designed and placed under the general elective area. The director post graduate studies at the time of the admission will assess the deficiency of each student and suggest one course from the below list. Various courses from mixed specializations of Structural Engineering and Transportation Engineering are offered in the MSCE in Civil Engineering program to provide a vast choice to the students. However, the Department will decide specialization for students in case the number of students opt for any specialization area is less than ten. Students will be required to complete four courses from the courses tabulated below.

Code	Course	CrHrs
CE 601	Pavement Structures materials and Design	3
CE 602	Pavement evaluation based on NDT	3
CE 603	Pavement Construction and Maintenance	3
CE 604	Traffic Management Techniques	3
CE 605	Highway planning and Design	3
CE 606	Intelligent Transport Systems	3

CE 607	Traffic Safety	3
CE 608	Railway Engineering	3
CE 609	Airport Planning and Engineering	3
CE 610	Highway Geometric Design	3
CE 621	Advanced Concrete Design	3
CE 622	Advanced Concrete Technology	3
CE 623	Matrix Structural Analysis	3
CE 624	Behavior of Concrete Structures	3
CE 625	Advanced Steel Structures	3
CE 626	Prestressed Concrete Structures	3
CE 627	Finite Elements Methods	3
CE 628	Advanced Mechanics of Materials	3
CE 629	Introduction to Bridge Engineering	3
CE 630	Structural Dynamics	3
CE 631	Earthquake Resistant Design	3
CE 701	Research methodology	3
CE 702	Probability and Statistics	3
CE 703	Advanced Geotechnical Engineering	3
CE 704	Advanced Soil Mechanics	3
CE 705	Soil Dynamics	3
CE 706	Advanced Foundation Engineering	3
CE 707	Rock Mechanics and Tunneling Engineering	3
CE 708	Ground Stabilization	3
CE 709	Geo Environmental Engineering	3
CE 710	Hydraulic Structures	3
CE 711	Civil Engineering Materials and Composites	3
CE 712	Computer Aided design construction and management	3
CE 713	Infrastructure Conditions assessment	3
CE 714	Environmental Impact assessment	3
CE 715	Project planning and estimating	3
CE 716	Transportation Planning and Modelling	3
CE 717	Geographical Information system	3
CE 690	Special Topics	3

MS Project Management (MSPM)

MS in Project Management (MSPM) is becoming a paramount academic qualification for project managers, technical entrepreneurs, and software developers working at various levels and different professions.

Project Management enables managers to conceive, initiate, plan, execute, control and evaluate effective projects by utilizing the theoretical and practical set of skill upon which this program is focused intensively.

The degree program is purposefully designed to benefit through following curriculums adapted from PMBOK (Project Management Body of Knowledge) and beyond. Managers, GMs, Technocrats, Manufacturers, Consultants, Entrepreneurs, Engineers, Technological Experts, Scientists, and Technical Managers would find this lucrative opportunity to enhance their project management skill set.

The curriculum of MSPM is developed in such a way to equip project managers witha diversified skill set so they can comprehend a holistic design of organizational operations and their relationship to project management. Areas in strategic management, financial, marketing, and technology entrepreneurship are included in this program to expand the knowledge and value base of professionals.

Program Structure

Total number of Credit Hours and its categorical distribution:

Category	CrHr	Remarks
Core Courses	9	Core courses are compulsory. A list of five core courses is provided as per the HEC criteria.
Elective Courses	15	A number of common elective courses are identified which are useful for engineering management discipline. Students are required to take minimum three courses from this category.
Thesis	06	Intensive research to be conducted under the supervision of a faculty member.
Total	30	

Area of Specialization

- Industrial Project Management
- Engineering Project Management
- Software Project Management

Core Courses

Code	Course	CrHr
MS501	Advanced Research Methods and Professional Ethics	3+0
PM548	Management Science for Technical Managers	
PM625	Advanced Operations Management	3+0
PM622	Advance Project Management	3+0

* Compulsory for Thesis Students.

Semester Plan

Semester I

Code	Course	CrHrs
PM548	Management Science for Technical Managers	3+0
PM625	Advanced Operations Management	3+0
PM622	Advance Project Management	3+0

Semester II

Code	Course	CrHrs
MS501	Advanced Research Methods and Professional Ethics	3+0
PM6xx	Elective-I	3+0
PM6xx	Elective-II	3+0

Semester III

Code	Course	CrHrs
PM6xx	Elective-III	3+0
PM6xxz	Elective-IV	3+0
TH601	Thesis-I	3+0

Semester IV

Code	Course	CrHrs
TH602	Thesis-II	3+0

M.Phil Microbiology

M.Phil. in Microbiology, offered by the Department of Life Sciences, is one of fastest growing post-graduate program at the campus. The faculty members are highly-qualified and are actively involved in teaching and research. The department has collaborative links with national research laboratories and institutes. The department has access to the modern laboratories and tools of microbiology, molecular biology, cell culture etc.

Candidates opting for M.Phil. degree program are encouraged to build upon the body of knowledge already acquired in their graduate studies by indulging in original research work and thesis. The degree program fulfills all the curriculum requirements for M.Phil. degree program as recommended by Higher Education Commission, consisting of core and elective courses. The students are required to complete 24 credit hours of courses and complete a research thesis of 6 credit hours.

Semester Plan

Semester I

Code	Course	CrHrs
MB701	Proteomics and Genomics	3
MB702	Instrumentation and analytical techniques	3
MB7xx	Elective-I	3
MB7xx	Elective-II	3

Semester II

Code	Course	CrHrs
MB742	Research Methodology	3
MB7xx	Supporting Elective	3
MB7xx	Elective-III	3
MB7xx	Elective-IV	3

Semester III & IV

Code	Course	CrHrs
MB790	Thesis	6

List of Core Courses (Compulsory CourseS)

Code	Course	CrHrs
MB701	Proteomics and Genomics	3
MB702	Instrumentation and analytical techniques	3
MB742	Research Methodology	3

List of Supporting Elective (One course should be selected)

Code	Course	CrHrs
MB741	Biostatistics and Computer Application	3
MB743	Analytical Tools for Microbiology Applications	3

List of Elective Courses

Code	Course	CrHrs
MB 729	Foodborne Diseases	3
MB717	Gene Expression and Regulation	3
MB704	Epidemiology	3
MB717	Advanced Immunology	3
MB705	Molecular Virology	3

MS Biochemistry

MS in Biochemistry is an advanced degree program which aims to prepare students for research and strategic jobs in this field. Owing to the enormous advances made during recent decades, biochemistry has become the milestone of all biological sciences. MS Biochemistry has been designed to meet the needs of well-trained manpower to serve the sectors of health, agriculture, industry and education in the country. The program (MS in Biochemistry) has a minimum of two-year duration (4 Semesters) and includes both course work (24 credit hours) and a research Thesis (6 credit hours). Highly qualified faculty members are actively engaged in research in multiple disciplines like Cancer cell Biology, Molecular Immunology, Animal and Plant cell culture, Drug designing, Genetic engineering, and Molecular Genetics.

Semester Plan

Semester I

C. Code	Course Title	CrHrs
BC611	Advances in Biochemistry	3+0
BCXXX	Elective – I	3+0
BCXXX	Elective – II	3+0
BCXXX	Elective-III	3+0
	Total	12

Semester II

C. Code	Course Title	CrHrs
BC621	Advances in Molecular Biology	3+0
BCXXX	Elective – IV	3+0
BCXXX	Elective – V	3+0
BCXXX	Supporting Elective	3+0
	Total	12

Semester III & IV

C. Code	Course Title	CrHrs
BCXXX	Thesis/Dissertation	0+6
	Total	06

Core Courses (compulsory course)

C. Code	Course Title	CrHrs
BC611	Advances in Biochemistry	3+0
BC621	Advances in Molecular Biology	3+0

Supporting Elective (one course will be studies from this list):

C. Code	Course Title	CrHrs
BC622	Biostatistics and Computer Applications	3+0
BC601	Research Methodology	3+0

Elective Courses

C. Code	Course Title	CrHrs
BCXXX	Advances in Molecular genetics	3(3-0)
BCXXX	Advances in Endocrinology	3(3-0
BCXXX	Advances in Biotechnology	3(3-0)
BCXXX	Advanced Biostatistics	3(3-0)
BCXXX	Advanced Bioinformatics	3(3-0)
BCXXX	Recent Trends in Immunology	3(3-0)
BCXXX	Advanced Fermentation Biotechnology	3(3-0)
BCXXX	Community Nutrition	3(3-0)
BCXXX	Protein Structure, Function and Engineering	3(3-0)
BCXXX	Enzymes - Mechanism & Kinetics	3(3-0)
BCXXX	Advances in Cell Biology	3(3-0)
BCXXX	DNA Techniques and Clinical Applications	3(3-0)
BCXXX	Good Laboratory Practices and Quality Control	3(3-0)
BCXXX	Signal Transduction	3(3-0)
BCXXX	Biochemistry of Metabolic Disorders	3(3-0)
BCXXX	Biochemistry of Natural Products	3(3-0)
BCXXX	Recombinant DNA Technology	3(3-0)
BCXXX	Research Methodology	3(3-0)
BCXXX	Advanced Biochemical Techniques	3(3-0)
BCXXX	Genomics, Proteomics and Metabolomics	3(3-0)
BCXXX	Gene Expression and Regulation	3(3-0)
BCXXX	Food Biochemistry	3(3-0)
BCXXX	Renewable bioenergy Resources	3(3-0)
BCXXX	Molecular Mechanism of Diseases	3(3-0)
BCXXX	Molecular Evolution	3(3-0)
BCXXX	Seminar	3(3-0)
BCXXX	Special Problem/ Specific assignment	3(3-0)
BCXXX	Drug Designing and Metabolism	3(3-0)
BCXXX	Forensic Serology and DNA Analysis	3(3-0)
BCXXX	Application of Nanomaterials in Biosciences	3(3-0)
BCXXX	Stem Cell and Therapeutics	3(3-0)
BCXXX	Neuroscience	3(3-0)
BCXXX	Structural Bioinformatics	3(3-0)
BCXXX	Plant Genomics	3(3-0)
BCXXX	Biochemistry of Drugs and their Resistance	3(3-0)

Admission Procedure

Abasyn University offers admission on open merit basis. There is no quota system followed at the University. The eligibility mentioned below must be fulfilled by the candidate at the time of submitting application. All candidates for undergraduate programs who are eligible for admission will be required to appear in the entry test arranged by the University

Admissions to various programs are announced through national news papers and social media well before the date of the entry test. All applications for admission are accepted on prescribed forms with attested photocopies of all the previously obtained Degrees/Certificates/ DMCs, and any other document mentioned in the application form attached to the Prospectus. Admission is based upon careful review of all credentials presented by the applicant. These applications will be considered without regard to race, gender, age, religion, marital status, physical disabilities, and national origin. All required admission documents should be submitted to the Office of Admissions. The University reserves the right to change its admissions policy without prior notice.

Eligibility

Eligibility and Selection Criteria (BECE/BEEE)

A candidate must have one of the following qualifications to be eligible for the admission in the BECE program.

- at least 60% marks in FSc. (Pre-Engineering)
- at least 60% marks in DAE (Civil)
- Any other equivalent qualification.

The Selection criteria for the intake is rigorously adhered to ensure quality, equality, and equal opportunity for students from all race, background and orientations. Selection of candidate for the admission is based on the following criteria:

Matric:	10%
Intermediate/DAE:	50%
Entry test, NTS or any other: aptitude test	40%

Eligibility and Selection Criteria (PHARMACY/DPT)

A candidate must have 60% or above marks in Intermediate (Pre-medical) or equivalent or a

higher examination of a Pakistani university with Biological Sciences to apply for admission to the Pharm-D.

Selection of candidate for the admission is based on the following criteria:

Matric:	10%
Intermediate or equivalent:	50%
Entry test, NTS or any other: aptitude test	40%

Eligibility and Selection Criteria (all other disciplines)

To be admitted to the BS Programs, applicants shall fulfill the following requirement:

1. Minimum 45% marks in HSSC (or equivalent) examination. Applicants with a qualification other than HSSC will need to furnish an equivalence certificate from Inter-Board Chairman Committee, Islamabad.

   Selection of candidate for the admission is based on the following criteria:

Matric:	10%
Intermediate or equivalent:	50%
Entry test, NTS or any other aptitude test:	40%

Eligibility and Selection Criteria (B.Sc Civil Engineering Technology)

A candidate must have one of the following qualifications to be eligible for the admission in the B.Sc Civil Engineering Technology program.

- at least 50% marks in FSc. (Pre-Engineering)
- at least 50% marks in DAE (Civil)
- Any other equivalent qualification.

Eligibility and Selection Criteria (B.Sc Electrical Engineering Technology)

A candidate must have one of the following qualifications to be eligible for the admission in the B.Sc Electrical Engineering Technology program program.

- at least 50% marks in FSc. (Pre-Engineering)
- at least 50% marks in DAE (Electrical)
- Any other equivalent qualification.

For the MS/MPhil Programs

a. The candidate should have passed 4 year Bachelor's* degree from any recognized university with certain required courses according to the chosen discipline of study. (for example for admission to MS in Electrical Engineering - a 4 year BSc Electrical Engineering).

b. The candidates are required to provide NTS General TEST result with a minimum cumulative score of 50 percent, within the first two semesters after inrollment The admission office provides guidance how to take NTS examination.

For Standing Admissions (Transfer Students)

All potential students applying for transfer of credits must have been enrolled in an HEC recognized institution. Furthermore, they are required to fulfill and complete all admissions requirements for their respective programs. The following criteria will be used to assess the Academic eligibility of transfer students:

a. Duly completed Transfer of Credit form.
b. Mark sheets/transcripts of current and previous academic work
c. Course outlines for all courses that a student wants to be transferred to the university.
d. No objection certificate from the previous institution of enrollment.
e. All potential candidates are required to take the Admission examination, unless they are transferring from another campus of Abasyn University.
f. According to the university policy students must complete at least half of the program to get a degree.
g. No credit hour of a course will be transferred if the grade is less than C for undergraduate/ Master of 16 year and B for Master/Mphil programs.

Application

The fee for the application packet can be paid in cash if collected in person. If requested by post the fee should be sent in the form of a bank draft or pay order in the name of Abasyn University. Application can be downloaded from official Website of Abasyn University (www.abasynisb.edu.pk). Application can be filled and submitted online as well. However students are required to bring their required documents on the day of test/interview. Application must be submitted before the deadline fixed by the University.

Required Documents with application

The following documents are required to be submitted along with the Admission Application Form:

- Completed Admission application form.
- Mark sheets of all previously completed academic work.
- If a candidate has completed previous academic work from another education system, an Equivalence Certificate from the Inter Board Committee of Chairmen (IBCC) is required within two months of the admission offer.
- 4 Passport size photographs.
- Copy of Computerized National Identity Card / Form B.

Admission Test

Abasyn University arranges its own entry test to make sure that the quality of intake is the best. The admissions test covers the following areas:

1. English
2. Mathematics
3. Logic and Analytical

Abasyn University provides students with all the necessary examination stationary, thus students don't need to bring anything along with them.

Fee Structure and Financial Support

The University is well aware of the economic conditions of the country. Therefore, the University has exceptionally subsidized tuitions fee of all of the academic programs. The fee structure is vary from the program to program. The fee is charged on Credit hour basis during each semester. Candidates are requested to obtain information about the tuition of fee of each program from the admission or finance offices.

In addition to tuition fee students are also required to pay the following fee:

- Admission fee
- Security fee (Refundable)
- Registration Fee
- Degree fee once at the time of completion and award of degree

The university reserves the right to change the fee structure without prior notice to students. Tuition fee is increased by 3%-7% each year. Tuition Fees at Abasyn University are quite affordable as compared to others. Details can be obtained from Admission Office or visit our website www.abasynisb.edu.pk.

◀ Orientation Session

▶ EE Farewell party
Batch Fall 14

Academic Policies and Rules

Academic Integrity

Abasyn University expects integrity from every student and staff in all academic work. AU does not support plagiarism in any form. AU main principle regarding the academic integrity is that student's submitted work must be of his or her own creation. Conduct prohibited by the code consists of all forms of academic dishonesty, including: cheating, fabrication, facilitating academic dishonesty, and plagiarism which is defined in the code of conduct, modifying any academic work for the purpose of obtaining additional credit after such work has been submitted to the supervising faculty member. Failure to observe rules of academic integrity established by a faculty member for a particular course and attempting to commit any act prohibited by the code will result in severe action against the student which includes an automatic 'Fail' grade for the course and/or expulsion from the university.

Plagiarism

Abasyn University strongly discourages and condemns any form of plagiarism. Students caught cheating on any examination by using "notes" whether those notes were relevant to the test or not, or caught talking during examination, will receive an automatic 'Fail' grade for the course. Strong disciplinary action will be taken against the accused student, including expulsion from the university. Students caught applying "copy & paste" or copying other student's work on assignments will receive an automatic '0' marks for that assignment.

Academic System

The University follows semester system for all of its degree programs. Each academic year consists of two regular semesters, i.e., Fall and Spring semesters. However, an optional condensed Summer semester is also offered to enable students to cover up any deficiency occurred in the regular semesters.

Academic Duration for various degree programs

Most of the bachelor degree programs consist of four years. However, there are certain programs which are completed in two years such as Bachelor of Commerce (BCom), and associate degrees.

Students are expected to complete their education within a specified period of time for the degree they are enrolled for. For fulltime Bachelor students, the normal time needed to complete their degree program is four (4) years and the maximum time permitted is six (6) years. Master degree students are expected to complete their degree requirements within one and half (1.5) to three and half (3.5)years.

Credit Hour

Each class is defined by the number of credit hours. At Abasyn University, majority of classes are either 3 or 4 credit hours. One credit hour is equivalent to 15 contact hours. However, one credit hour lab is equivalent to 2 to 3 contact hours per week.

Academic Load

Academic load varies from program to program. Normally a student takes 15-18 Credit Hours course work in a semester at the four years degree program. As Abasyn University offers a variety of degree programs, therefore, the academic load varies from degree to degree. See details in student hand book.

Registration

All students of Abasyn University are required to register each semester according to schedule announced by the University authority. Registration is a useful process for both the students and academic Departments in order to plan students' studies for the whole semester. Student can register minimum possible load depending on his performance in the previous semester(s). The Department can also advise weak students to not register for full load but improve the academic standing to clear the academic probation (if any).

Withdrawal from University

A student who wishes to withdraw from the University must notify the Admissions Office and Head of Department in writing by completing the University Withdrawal form. The Admission Office after proper procedure will issue a letter to student for the closure of the admission in the University.

Freezing of Semester

A student may request freezing of his/her admission for up to 2 semesters along with 'Semester freeze' charges of Rs. 5,000 per semester. The written approval of the Head of Department and the Registrar is required. A student cannot freeze more than two semester consecutively and a student cannot avail this facility for more than two time in the whole degree duration.

Grading System

Since AU offers a diverse degree program, therefore, grading scheme varies from discipline to discipline. Letter grades, standing, percentage and grade points are shown in the table below:

Letter Grade	Standing	Percentage	Grade Point
A	Outstanding	85-100	4.00
A-	Excellent	80-84	3.67
B+	Very Good	75-79	3.33
B	Good	70-74	3.00
B-	Above Average	65-69	2.67
C+	Average	61-64	2.33
C	Moderate	58-60	2.00
C-	Acceptable	55-57	1.67
D+	Pass	53-54	1.33
D	Pass	50-52	1.00
F	Fail	Below 50	0.00
I*	Incomplete		
W*	Withdraw		

* Are not included in the calculation of Grade Point Average (GPA).

Academic Probation

Students whose performance is not satisfactory are kept on academic probation. The following rules of academic probation will be used:

a. If a student obtains a GPA less than 2.0 in a semester, the student will be placed on academic probation. Students in this status are urged to seek academic counseling through appointment with the Head of the Department or the Dean.

b. If a student who continues to get a GPA below 2.0 in the following semester will be placed on second academic probation. Student and his parent/ guardians will also be informed about the weak performance of the student..

c. A student who fails to raise his/her GPA above 2.0 after the second probation period will be dismissed from the university. However, if the student manages to raise the GPA above 2.0, then their name is removed from the probation list.

A student on probation is advised not to take more than 12 credit hours per semester (3-4 courses) until he/she is not removed from the probation list.

Repetition of Course with lower grades

Students who obtain a grade below 'C' will be allowed to improve their grades. In case a student with C+ grade would like to improve his/her grade will be required to get a written permission from the registrar office with the final approval of the Vice Chancellor.

Attendance Requirements

Abasyn University expects students to be punctual and regular in all classes. The students must attend 75% of total classes held in a semester. A student must also maintain at-least 65% in each course to be eligible to appear in the examination. A student does not fulfill the above requirements will be automatically award 'F' grade in the concerned subject.

In case of an unexpected emergency or absence on genuine grounds, students must submit an application to Head/Dean office with all relevant documents. The Dean or a committee review these kinds of cases and recommend for approval in relaxation of attendance to the Vice Chancellor. In case, the students were absent from classes because of the University sponsored events, it will be the University responsibility to arrange make-up classes for these students.

Dean's List of Honors

A Student is placed on the Dean's list, if his/ her SGPA equals or exceeds 3.50 at the end of semester. Such a student receives a certificate and cash award and his/her name is also placed on the University's website. Only those students are included in this list who have completed the semester with regular course load prescribed in the study plan.

Vice-Chancellor's List of Honors

A student is placed on the Vice-Chancellor's Honours list, if his/her SGPA is 4.00 at the end of a semester. Such a student receives a certificate and cash award and his/her name is also placed on the University's website. Only those students are included in this list who have completed the semester with regular course load prescribed in the study plan.

Products Developed By R&D Labs, hosted at the Abasyn University Islamabad Campus

Renzym products are focused on the development of true SDRs with the minimum of implementation effort in the hardware. Our team is striving to provide our customers with state of the art SDR platforms and software frameworks that can enable them to build software defined radios directly from personal desktops/laptops using USB and sound card interfaces. Our main products include:

HF SDR Transceiver

HF SDR Transceiver is a high performance, direct conversion HF transceiver for high data rate, long range HF Tactical radios with frequency hopping and ALE capabilities. Its key features include 48 KHz of channel bandwidth, onboard DDS chip for carrier generation and USB interface.

SDR Communication Kit

SDR Communication Kit enables true SDR development directly from Matlab/LabView class room simulations. It is a USB powered device specifically designed for hands on communication system design experience for engineering labs and organizations involved in the SDR development.

Renzym SDR Framework

RSF is a digital modem software with more than 15 built-in PSK, QAM and FSK waveforms and C/ Python APIs for development and rapid prototyping of SDRs. It can be used with HST, SCK or other front end hardware to readily build a real-time communication system.

Augmented Reality

Augmented reality techniques have been implemented for many applications at the R&D Labs in Abasyn University, some of the examples are shown below.

Video Play

Alphabets

Solar System

Medicine Description

AR Piano

AR Car

Facilities at the Abasyn University Islamabad Campus

- Library is equipped with latest books, international research journals, latest reports on various topics and daily newpapers/magazines.

- Campus Wifi

  Students can enjoy wifi internet facility all around the campus

- Latest Computer Labs

  Equipped with latest technology and softwares

- Laboratories

  Equipped with latest technology and equipment

- Cafeteria
  Hygienic, Healthy Food Facility
- Girls Common Room

- Seminar Rooms
  Fully Equipped Seminar rooms available

- Masjid

- Extra Curricular Activities
  - Sports Gala
  - Industrial Trip
  - Study Tour
  - Annual Student's Week

Internships – Industrial training program during studies

- Compulsory internship programs are incorporated to the curriculum of bachelor degree to enable students to get latest knowledge and get working experience in multi-national organizations.
- The aim of the internship program is to enhance the professional competency among the students and to have industry collaboration.
- This will also help them to find good job or open up their own business.

We are planning to build another campus at Islamabad with a vision to provide world class facilities for teaching, study, entertainment and sports.

Research Contribution by Abasyn University

The University fully understands the important role of universities to produce new knowledge through research. Therefore, the University has launched quality journal in the area of Social Science which covers most of the academic programs offered at both the campuses. The title of the journal is "Abasyn Journal of Social Sciences". It is also hosted two international conferences on technology and business management in 2013 and 2014.

AiCTBM-13 - 1st Abasyn International Conference on Technology & Business Management

The First Abasyn International Conference on Technology and Business Management was organized by Abasyn University, Peshawar and Islamia College, Peshawar on April 3-4, 2013. The conference received lot of papers from Pakistan and other countries. A total of 36 papers were accepted and approved by the review committee and presentation and conference proceedings. The event brought together several experts, researchers and scientists from various universities and organizations at Peshawar to share their ideas with young researchers and students. Papers in the conference covered all important areas of business and technology including finance, marketing, HR, entrepreneurship, communication, wireless communication, computer science and engineering. The conference benefited all of the participants.

AiCTBM-14 - 2nd Abasyn International Conference on Technology & Business Management

2nd Abasyn International Conference on Technology and Business Management took place on 26th MArch, 2014. It remained a great success at the Abasyn University Peshawar Campus. More 20 papers were presented at the conference covering variety of topics pertaining to business and technology domain. The conference was attended by many researchers and distinguished academicians from Pakistan and Abroad. Professor Saeed and Professor Qadar Baluch were the keynote speaker at the event. Abasyn intends to continue its endeavors for cultivating the culture of research in the region by arranging third international conference in year 2018.

International Collaboration

The University has also established a number of collaborations with foreign universities of UK, Turkey and China, where the students of Abasyn University can transfer their credit hours by 100%. These Universities include:

Southampton Solent University UK

Surrey International Institute of Finance & Economics, Dongbei University China

University of Bedfordshire, UK

British Institute of Technology and E-commerce London

Fatih University, Istanbul, Republic of Turkey.

Zirve University, Izmir, Republic of Turkey.

Yildiz Technical University, Istanbul, Republic of Turkey.

Ishik University, Erbil, Iraq.

Suleyman Sah University, Istanbul, Republic of Turkey.

Abasyn University Societies

Abasyn University has a wide variety of clubs which promotes extra co-curricular activities, so that students along with their studies can lighten up, enhance their practical skills, groom their personalities and explore their hidden talents.

AMC (Abasyn Media Club) serves as a platform where all the latest news and events are updated whether hosted by themselves or other societies occurring in Abasyn University. Together with encouraging students to enhance their skills on photography content writing and editing.

Greping serves as a platform where students can enhance their skills by being updated on all the seminars and workshops related CMMI and Agile methodologies, Microsoft, python and other events occurring in this university.

Khakka is a society which promotes art, culture and drama. This is a club where a variety of events take place from arranging events such as Eid melad ul Nabi to organizing dramatic plays and romoting creativity within students.

This society promotes awareness within students about healthcare, knowledge about life threating diseases, and organizes events health related seminars and holds conferences related to biosciences.

Silver ink is a society which promotes Urdu and English literature. Along with that, it is also responsible for organizing debates, speeches, book club discussions and other literary events, enhancing communication and writing skills, promoting creativity, critical thinking and love of books.

ACES (Abasyn Civil Engineers Society)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