SZABIST
UNIVERSITY
Hyderabad Campus

Discover Yourself

PROSPECTUS
2024-25

We just Don't Work Hard
We Work Smart
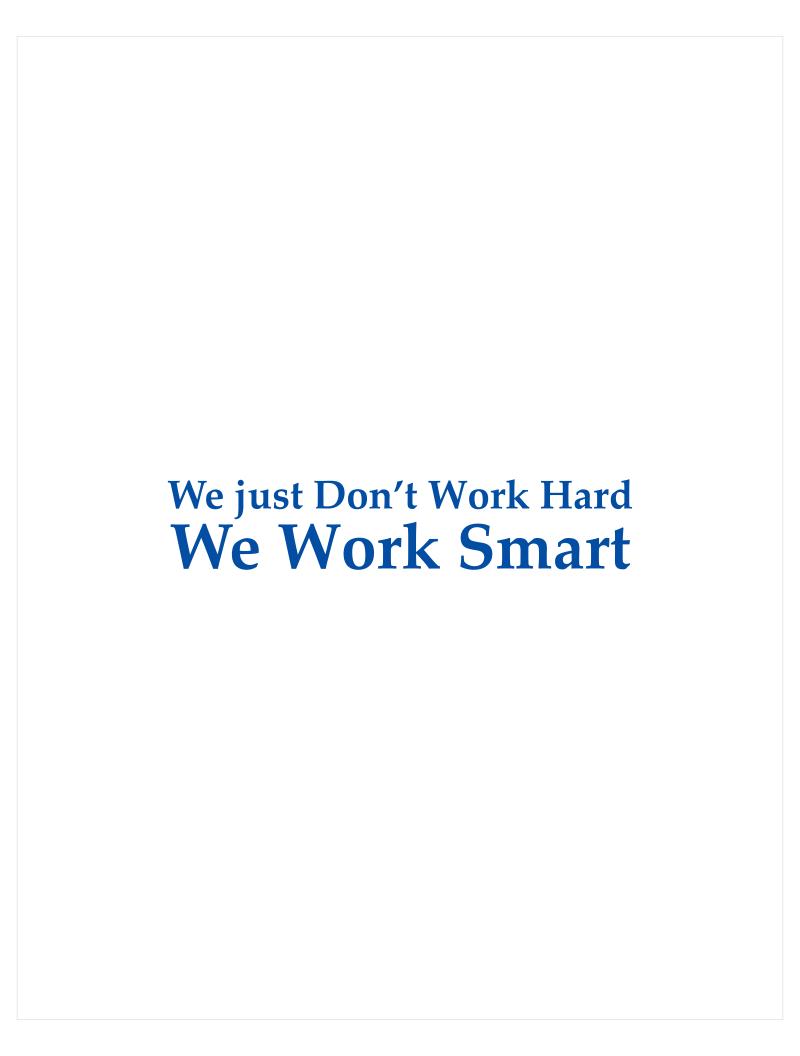
SHAHEED ZULFIKAR ALI BHUTTO INSTITUTE OF SCIENCE & TECHNOLOGY

THE VISION

SZABIST aims to be a globally recognized institute for excellence in education, research, development, and distinction in service.

THE MISSION

SZABIST is committed to produce highly qualified professionals to:
- Meet national and global contemporary needs;
- Conduct cutting edge research and development;
- Provide hi-tech scientific and technological expertise;
- Meet current and future socio-economic challenges;
- Meet global citizenship responsibility.

CONTENTS

SHAHEED ZULFIKAR ALI BHUTTO

January 5, 1928 - April 4, 1979
Former Prime Minister of Pakistan

"We will give science and technology requirements the highest priority and our attention. To implement any program of scientific and technological development, the country needs to train scientific manpower. In this, the schools, colleges and universities have to play their role. I desire that vast number of people of Pakistan should acquire technological skills. I want first-class science in Pakistan because nothing less is acceptable. And I wish Pakistan to be increasingly self-reliant in all aspects of technology."

Address at the Inauguration Ceremony of Karachi Nuclear Power Plant, Karachi, Pakistan, November 28, 1972.

SHAHEED MOHTARMA BENAZIR BHUTTO

June 21, 1953 - December 27, 2007
Former Prime Minister of Pakistan,
Founding Chancellor SZABIST

"Technology and Communication have changed our world and are influencing a global culture. The ability to google information from anywhere in the world puts technology into the hands of even the most isolated rural communities in the developing world. The more people learn, the more they want to learn. The more they interact, the less likely they will be to fear the unknown. Just as democracy and educational exchange promote peace, the free flow of modern technology and communication promote peace."

Reconciliation: Islam, Democracy and the West, 2008.

CHANCELLOR'S MESSAGE

I welcome you to join the Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST), one of the most prestigious higher education institutions of Pakistan.

At SZABIST, we believe that innovative thoughts and high ideals teach the values of hard work, creativity and continuous learning. We prepare our students for professional careers, therefore, we offer a wide variety of programs including Management, Computer, Social and Media Sciences, Mechatronic Engineering, Biosciences, Education, Public Health and Law. The curriculum of each traditional and emerging program is approved by the Higher Education Commission (HEC), Pakistan and is taught by highly qualified and competent faculty members.

To achieve the mission of our founding Chancellor Shaheed Mohtarma Benazir Bhutto of providing opportunity for high quality tertiary education and research to the youth of Pakistan, SZABIST has a presence in Karachi, Islamabad, Larkana, Hyderabad, and an overseas campus in Dubai, UAE. **We have also established our campus at Gharo , which opened in Fall 2022.**

At SZABIST, you will become part of a community that believes research is an integral part of academic excellence. We encourage participation in research and extra-curricular activities enabling our students to realize and nurture their true intellectual and professional potential.

SZABIST also offers numerous scholarships and financial assistance to make education accessible and affordable for all of its students. In order to augment students' learning experience and continuously improve the standard of education, the Institutional Research Department/Quality Enhancement Cell periodically assesses all programs to enhance the quality of education being imparted.

SZABIST is investing considerable resources for renovation and upgradation of its infrastructure and acquisition of additional physical facilities for its campuses. A **"Graduate Research"** is also being established to fulfill emerging research and academic requirements.

As I welcome the new students, I encourage them to strive for excellence and while they equip themselves with marketable skills, they should actively work to promote the values of a tolerant, inclusive and pluralistic society.

The motto of SZABIST is to provide students the opportunity to experience university life in a way that helps them to discover themselves whilst focusing on their professional goals. So I wish you success in your years at SZABIST.

Dr. Azra Fazal Pechuho
Chancellor
SZABIST

PRESIDENT'S MESSAGE

It is my pleasure to welcome prospective students to Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST), a tertiary education institute known for its high quality and broad range of undergraduate and postgraduate programs and premium learning environment. SZABIST believes in encouraging students to discover their talent and strengths and achieve their educational, professional, and personal aspirations.

Over the past 25 years, SZABIST's national and international market reputation has been significantly enhanced. This is evident from the increased enrollment of about 11,000 students in its five Campuses-Karachi, Larkana, Hyderabad, Islamabad and Dubai (UAE).

SZABIST, guided by the vision of its Founding Chancellor, Shaheed Mohtarma Benazir Bhutto, is today a leading higher education institution for the youth of Pakistan aspiring for a high quality, relevant education. Our diversified academic portfolio offers a range of courses in 15 Bachelors, 16 Masters and 5 Doctoral level programs in the field of Management, Computing, Social Sciences, Media, Engineering, Biosciences, Public Health, Education and Law. This prospectus provides you with comprehensive information about our programs. The Institute, in compliance with the requirements of Higher Education Commission and Accreditation Councils, has developed curricula which not only relates to prevailing market demand but also prepares students with the knowledge and skills for the future needs of Pakistan's growing economy.

We are proud of our competent faculty and professionals who teach according to rigorous academic standards, evolving market requirements and provide a supportive environment for personal development. In addition to a wide spectrum of disciplines as presented in this Prospectus, SZABIST also offers exciting opportunities for co-curricular activities. Our Student Societies organize debates, drama, sports competitions, guest speaker sessions, workshops, and build networks with the Alumni and renowned companies for assistance in job placements.

Moreover, SZABIST was awarded 94% for its Quality Enhancement processes. Quality assurance measures are rigorously applied through tools such as Program Self-Assessment Reports, feedback of relevant stakeholders, publications and fulfilling documentation requirements of the regulatory authorities.

We hope you will become part of the SZABIST community of students and graduates and ultimately the global network of SZABIST alumni.

Shahnaz Wazir Ali
President
SZABIST

VICE PRESIDENT'S (ACADEMICS) MESSAGE

A great leader Mr. Nelson Mandela said: "Education is the most powerful weapon which you can use to change the world."

SZABIST University has seen exponential growth in its programs, students, and physical infrastructure since its inception in 1995. This could be possible with the full support of its Management, especially of its worthy Chancellor, Dr. Azra Fazal Pechuho.

The whole purpose of education is to create "Analytical Minds". As a responsible institution, we just don't believe in classroom studies but believe in complete personality development. We, therefore, regularly conduct co-curricular and extracurricular activities through our various students' societies. We aim to prepare our students to be useful to society.

SZABIST University now has six campuses in Karachi, Islamabad, Larkana, Hyderabad, Gharo, and Dubai. Karachi campus is the mother campus having more than 8000 students enrolled in its 40-plus academic programs in Management Sciences, Computer Science, Social Sciences, Media Science, Life Sciences, Education, Mechatronic Engineering, and Law. Our three-year LLB program is offered in collaboration with the University of London.

SZABIST University programs comply with HEC recommended course plans and are accredited by regulatory bodies such as NBEAC, NCEAC, PEC, NACTE, and CIEC. The learning outcomes of the programs ensure to create critical & creative thinking, acquire problem-solving skills, and professionally handle all pedagogical tools. We are fully aware that a University without Research is like a "Body" without a "Soul"; therefore, we emphasize research activities at levels in our programs.

Finally, I thank all the newcomers for choosing SZABIST University for their academic pursuits and wish them a happy stay during the entire period of their course of studies. I expect, as SZABISTian, you will show a high level of maturity through your conduct and actions.

Prof. Dr. M. Altaf Mukati
Vice President (Academics)
SZABIST

VICE PRESIDENT DEVELOPMENT AND FINANCE MESSAGE

Shaheed Zulfiqar Ali Bhutto Institute of Science and Technology initiated by Shaheed Mohtarma Benazir Bhutto and currently functioning under the able leadership of its Chancellor Dr. Azra Fazal Pechuho has emerged as a leading higher education institute that plays a vital role in producing highly qualified graduates.

Here we provide the environment, facilities, academic and professional experiences, and opportunities for research that aim at a creative, ethical, smart and holistic personality. With the commencement of the new academic year, students are encouraged to utilize the wide range of services and facilities, the events, programs, seminars, and festivals that will make their life at SZABIST interesting.

Get involved, make the most of your time and gain the experience that will make you the smart individual in demand at national and multinational firms within the country and abroad.

We are here to support you and welcome you to a fulfilling and interesting period at SZABIST.

Nasreen Haque
Vice President (Development and Finance)
SZABIST

VICE PRESIDENT'S (ADMINISTRATION) MESSAGE

I am delighted to welcome you to Shaheed Zulfikar Ali Bhutto Institute of Science and Technology. At SZABIST University, you will become part of a strong and supportive community that values academic excellence and diversity.

The unfailing dedication and vision of Shaheed Mohtarma Benazir Bhutto has led SZABIST University to grow into an exceptionally well established and well reputed institution. Today, SZABIST University has developed into a strong multidisciplinary institution with campuses in Karachi, Hyderabad, Larkana, Islamabad, Gharo and Dubai.

Over the years, Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) University has excelled in the field of education and has produced some of the most well qualified and outstanding graduates.

We at SZABIST University are dedicated not just to the purpose of education and learning, but also to assisting and guiding students to adjust to university life and to discover their skills and talents. We encourage students to promote a campus environment that is respectful, supportive and safe.

SZABIST University is truly proud of the role students play in the life of the institution and it is hoped that you will also play an important part.

It is hoped that the Prospectus 2024 will serve as a useful guide in planning out your academic journey and that each of you have a well learning and fruitful experience here at SZABIST University.

With best wishes

Imtiaz Kazi
Vice President Administration
SZABIST

INTRODUCTION

SZABIST University is proud to offer quality education in the areas that are crucial for Pakistan's socio-economic development. It was established as a Degree Awarding Institute (DAI) in the year 1995 through the Legislative Act of Sindh Assembly and chartered as University by Sindh Assembly through Sindh Act No. XIX of 2023. It is ranked as one of the most reputed universities by the Higher Education Commission (HEC) of Pakistan and the Chartered Inspection and Evaluation Committee (CIEC).

SZABIST University comprises six campuses located in Karachi, Hyderabad, Larkana, Islamabad, Dubai (UAE), and Gharo with a current student population of approximately 19,000. Collectively, over 31,000 talented graduates have been proudly awarded degrees by all campuses of SZABIST University. Our alumni are sought by national and multinational organizations and hold key positions in several reputable firms. All programs of SZABIST University are conducted under strict compliance of the relevant regulatory bodies such as NBEAC, NCEAC, NACTE, PEC and KHDA Dubai (UAE).

The university offers undergraduate, graduate and post graduate degrees in 5 different disciplines: Faculty of Management Sciences, Faculty of Computing and Engineering Sciences, Faculty of Media Sciences, Faculty of Education and Social Sciences, and Faculty of Life Sciences. Additionally, SZABIST University offers LLB program, CertHE (Law), and BABS program as external programs in affiliation with University of London and Coventry University, UK, respectively.

SZABIST University is a registered member of the following international and national associations: International Association of Universities (IAU), Paris. The Association to Advance Collegiate School of Business (AACSB), Singapore. Asia-Pacific Quality Network (APQN), People's Republic of China. The Talloires Network, USA. The Chartered Institute of Logistics and Transport (CILT), UK. Management Association of Pakistan (MAP), Karachi. Marketing Association of Pakistan (MAP), Karachi.

Moreover, SZABIST University has signed MoUs with various reputable and distinguished organizations and institutions such as Istanbul Medipol University, Turkey; University of London, UK; John Hopkins University (Gates Institute), TCF, ICRC, Aman Foundation and JS Bank. SZABIST University Hyderabad Campus is situated in the prime location of Thandi Sarak, State Life Building, Ground, 2nd, 3rd, 4th & 8th floor.

INTRODUCTION

PROGRAMS & CURRICULA

DEGREES OFFERED

All five campuses of SZABIST offer various degree programs in different disciplines so please refer to page 50 for details.

Bachelor of Business Administration (BBA)

SZABIST offers a four-year (eight semesters) BBA degree program of 144 credit hours. This is SZABIST's flagship program. For the BBA program, students are required to complete 46 courses and 03 credit hours Business Project, a 03 credit hours Community Service Project and 03 credit hours Graded Internship. The students will take 4 Program Electives courses from Management, Marketing, Finance, Business Analytics, Entrepreneurship or Supply Chain Management. To obtain the BBA degree, students have to complete 144 credit hours including a six week graded internship. Maximum time limit to complete the BBA degree is six years. BBA program is an ACCA accredited program; those who complete BBA from SZABIST, Hyderabad, will get an exemption in 06 out of 09 ACCA Foundation papers (F1, F2, F3, F5, F7 and F9). BBA students and alumni are exempted from all 13 courses of Chartered Institute of Management Accountants (CIMA) qualification, and are only required to pass three case studies. BBA Program has been accredited by National Business Education Accreditation Council (NBEAC) and is also affiliated with Chartered Financial Analyst (CFA) Institute.

Bachelor of Science in Accounting & Finance (BS A&F)

SZABIST University offers a 4-year (8 semesters) Bachelor of Science in Accounting & Finance (BS A&F) program, consisting of 47 Courses, a 3 credit hours Capstone Project, and 3 credit hours graded internship. Students have to complete 144 credit hours to obtain the BS A&F degree. The maximum time limit to complete the degree program is six years. Students have the option to take:
Finance as Major and Accounting as Minor /
Accounting as Major and Finance as Minor
Graduates of BS A&F program will get exemptions in 9 papers from both Institute of Chartered Accountants of Pakistan (ICAP) and Association of Chartered Certified Accountants (ACCA), UK. BS A&F students are exempted from all 13 courses of Chartered Institute of Management Accountants (CIMA) qualification, and are only required to pass 3 case studies. Whereas, BS A&F alumni will be exempted from all 13 courses and operational level case studies and will only attempt 2 case studies. The BS A&F program is affiliated with the Chartered Financial Analyst (CFA) Institute.
SZABIST University also offers a 2.5-year Bachelor of Science in Accounting & Finance (BS A&F-2.5) program

exclusively for CAF qualified students of the Institute of Chartered Accountants of Pakistan (ICAP). CAF qualified students are exempted from 60 credit hours (20 courses) of course work and have to complete 78 credit hours (27 courses) of course work, a 3 credit hours Capstone Project, and 3 credit hours graded internship. Students of BS A&F-2.5 year can also select Finance as Major and Accounting as Minor /Accounting as Major and Finance as Minor.

Bachelor of Science in Computer Science (BS CS)

SZABIST offers a four-year (eight semesters) BS Computer Science degree program which is accredited by National Computing Education & Accreditation Council, (NCEAC). The program covers a wide range of courses in core Computer Science, Information Technology and Software Engineering. The program is essentially a full time day program and consists of 44 courses (five courses per semester) with a total of 130 credit hours. The complete course plan includes 7 technical electives. These 7 technical electives provide intensive learning in the diversified areas of Computer Science and allied disciplines. Internship opportunities are provided to complete degree requirement. The maximum time limit to complete the degree program is six years.

Bachelor of Science in Software Engineering (BS SE)

The BS Software Engineering program is offered through a trained foreign qualified faculty. It consists of 44 courses with a total of 130 credits hours. The maximum duration to complete the degree is six years. The core courses focus on the fundamentals of software engineering followed by a broader range of courses through which students can choose to specialize their learning. The BS Software Engineering curriculum covers all important facets of the discipline of software engineering including project management, requirements analysis, software architecture, software development, and quality assurance. Throughout the degree program, students are exposed to the theory, techniques, tools, and practicalities of software engineering.

Bachelor of Science in Artificial Intelligence (BS AI)

The Bachelor of Science in Artificial Intelligence BS(AI) program is offered by the Department of

PROGRAMS & CURRICULA

Computer Science. This comprehensive four-year program encompasses a total of 44 courses, amounting to 130 credit hours. To fulfill the degree requirements, students are provided with internship opportunities, integrating practical experience with academic learning. The BS(AI) program is structured as a full-time, daytime curriculum, meticulously designed to cover the forefront of technological advancements in fields such as Machine Learning, Deep Learning, Explainable AI, Evolutionary Computing, Computer Vision, Software Engineering, and Natural Language Processing. The program comprises of 49 credit hours of Computing Core courses, 15 credit hours of Domain Core courses, 21 credit hours of Domain Electives, 9 credit hours of Mathematics and Supporting courses, 3 credit hours of Elective Supporting courses, and 33 credit hours of General Education Requirement courses. The maximum duration of the program is six years.

Bachelor of Science in Social Sciences (BS SS)

SZABIST offers a four-year (eight semesters) BSSS degree in Economics Sociology, Economics, International Relations and Sindh Studies. BS Program is essentially day program and consists of 46 courses (six courses per semester) including research project (I&II) with a total of 142 credit hours. The maximum time limit to complete the BS degree is six years.

Masters of Business Administration (MBA)

MBA program has been designed to impart quality professional knowledge and understanding of modern management tools, leadership, entrepreneurial skills, and managerial and communication competencies. MBA Program has been accredited by National Business Education Accreditation Council (NBEAC) which is an independent professional council established by Higher Education Commission.

SZABIST offers MBA programs with specialization in Marketing, Finance, Management, Human Resource Management, Supply Chain Management, Banking and Buisness Analytics. The maximum duration to complete MBA degree program is four years.

MBA program is intended for students having a four-year bachelor degree (e.g. BS-CS, BE, BBA etc.) or 16 years of education in different disciplines. The duration to complete this program is two years with 72 credit hours. Twenty- two courses (66 credit hours) and 6 credit hours of Research Project OR Thesis spread over two semesters

(03+03) are required to complete the program. Students with undergraduate degrees in Management Sciences, Business Administration, Commerce or equivalent qualification are exempted 36 credit hours of course work and they are required to complete remaining 36 credit hours in 1.5 years. Students are also required to undertake a six week duration of internship during summer.

MBA (non-finance electives) students and alumni are exempted from all 13 courses of Chartered Institute of Management Accountants (CIMA) qualification, and are only required to pass three case studies. MBA students with finance electives and alumni are exempted from all 13 courses and operational-level case studies and will only attempt two case studies.

Master of Science in Management Sciences (MS MS)

SZABIST offers MS degree with concentration in the specialized areas of Human Resource Management, Marketing, Finance and Business Analytics. The MS program is an evening program and all classes are held during week days. There are two streams available for MS. One Stream is by Course Work and other one is by Research Work. In Course Work Stream, the student is required to complete 10 courses of 3 credit hours each. In Research Work Stream, the student is required to complete 8 Courses and Two IRS OR one Thesis. In both the streams, 30 credit hours are to be completed. The time limit to earn an MS degree is from 1.5 to 4 years. As per HEC guidelines, all MS students are required to clear GAT General test or HAT relevant with minimum 50% score.

Master of Science in Computer Science (MS CS)

Master of Science in Computer Science (MS CS) SZABIST offers MS (CS) degree in three domains: Core Computer Science area and in two specialization tracks, i.e., Software Engineering (SE) and Networks & Security (N&S). Students are required to complete 3 focused courses in any specific domain.

The program is of 2-year duration and is offered in the evening. It requires 33 credit hours to complete. Student has the option to complete MS through course work only or with research. If student opts for course work only, he/she is required to complete 11 courses of 3 credit hours each. Else, the student is required to complete 9 Courses (27 credit hours) and Two Independent Research Study (6 credit hours) OR One Thesis (6 credit hours).

PROGRAMS & CURRICULA

Eligibility for this program is a 4-year BS (CS) or 2-year MCS degree from a recognized institution. The candidates with a 4-year professional degree (BE, MSc, etc.) may also apply but will require to complete deficiency conversion courses (up to 12 credit hours courses to be determined in consultation with Program Manager). The programs such as BSCS, BSIT, BSSE, BSCE & BSCSE shall not require any extra courses. As per HEC guidelines, all MS students are required to clear GRE or GAT General test or HAT relevant with minimum 50% score. The maximum time limit to complete the MS degree is four years.

Doctor of Philosophy

SZABIST offers PhD degree in Management Sciences and Computing in strict adherence to the HEC guidelines.

The admission requirement for PhD is minimum 17.5 years of education, GAT Subject 60% or above score / GRE Subject Test with minimum score of 640 and fulfilling the admission requirements of SZABIST.

PhD Computing can be done in various specialized areas related to pure or applied Computer Sciences. The specializations include but not limited to Database Management Systems, Management Information Systems, Data Warehousing, Data Mining, Networking & Communication, Business Intelligence, Process Modeling, Telecommunication, Mobile Communication, Mobile Computing, Technology Management, Artificial Intelligence, Software Engineering, Agent Systems, Speech Recognition, Multimedia Systems, HCI, E-Business, Mechatronic, Machine Vision, Image Processing and any other area which falls in the purview of computer sciences or computing.

Grading Plan

The following Letter Grade Plan is followed at SZABIST:

Letter	Range	Grade Point	Degree Requirement
A+	90 – 100	4.00	
A	85 – 89	3.75	
A-	80 – 84	3.50	
B+	75 – 79	3.25	
B	70 – 74	3.00	PhD Degree Requirement
B-	66 – 69	2.75	MS Degree Requirement
C+	63 – 65	2.50	Master's Degree Requirement
C	60 – 62	2.00	Undergraduate Degree Requirement
C-	55 – 59	1.50	
F	< 55	0.00	

NOTE:

- All applicants will be required to appear in an entrance test and interview/group discussion held by SZABIST.
- Conversion of A-Level grades or equivalent must be 50% and above for all undergraduate programs.
- Intermediate students are required to get their SSC and HSSC certificates attested by Inter Boards Coordination Commission (IBCC).
- Equivalency from Inter Boards Coordination Commission (IBCC) is mandatory for O & A Levels/High School Diploma/IB Diploma or equivalent.
- High School Diploma or International Baccalaureate (IB) students appearing for examination from Pakistan shall have to pass Islamiat, Pakistan Studies & Urdu either with O Levels or SSC.
- Verification of last degree from Higher Education Commission of Pakistan (HEC) is mandatory for all Masters, MS, & PhD students.
- Equivalency of international degrees from Higher Education Commission of Pakistan (HEC) is mandatory for all Masters, MS, & PhD students.
- Students waiting for results can also apply.
- Admission of Foreign students are subject to clearance from the relevant Agencies/NoC from HEC.

BACHELOR DEGREE PROGRAMS

BBA/BS Programs

For admission in the BBA/BS programs, the candidate must have completed O-Levels (minimum 8 subjects including 5 compulsory subjects; English, Urdu, Maths, Islamiat & Pakistan Studies) and A-levels (minimum 3 Subjects)/12th Grade/Intermediate with minimum 50% marks or equivalent from a recognized institution.

For BS Computer Science, Software Engineering and Artificial Intelligence programs, candidates who have not studied Mathematics at Intermediate/A-Levels have to pass deficiency courses of Mathematics (06 credits) in first two semesters.

MASTER DEGREE PROGRAMS

Master of Business Administration (MBA)

For admission in the MBA program, the candidate must possess a 4 years bachelor degree with minimum 2.0 CGPA or 16 years of education with minimum 50% marks from a university recognized by the HEC.

ADMISSION REQUIREMENTS

Master of Science in Management Sciences (MSMS)

For admission to MS Management Sciences candidates must possess 16 years of relevant education with minimum 50% marks/2.0 CGPA from a university recognized by HEC. GAT (General) or HAT relevant is mandatory for MS students with minimum 50% score.

Master of Science in Computer Science (MSCS)

For admission to MSCS program, candidates must possess 16 years of relevant education with minimum 50% marks/2.0 CGPA from a university recognized by HEC. GAT (General) or HAT relevant is mandatory for MS students with minimum 50% score.

DOCTORAL DEGREE PROGRAMS

Admission Requirements

A candidate with MA/MS/MBA/MPhil or any other equivalent degree with minimum 17.5 years of formal education in the relevant field from HEC recognized local or foreign university may apply for direct admission in a PhD program. To apply for admission in PhD program, the candidate must have obtained minimum 60% or 3.0 CGPA, and have passed GRE Subject Test with minimum score of 640/Equivalent/GAT (subject) with minimum 60% score. Clearing GAT (Subject)/GRE/Equivalent is mandatory for admission in PhD. Student would have to appear before admission committee for interview.

A student may be asked to complete other pre-requisite/deficiency courses/thesis before taking the required courses. The decision on number of pre-requisite courses is taken by the Admissions Committee of relevant department. For the applicants with non-relevant degrees, the candidate will be required to Pass GRE Subject/equivalent test with minimum 50% marks in the discipline of admission. He/she would also be required to take deficiency courses (Level 7) of minimum 6-9 cr. hrs. as determined by the department / admission committee. Final decision of admission will be taken by the concerned department.

Credit Hours Requirements

For completion of the PhD degree, the student must complete a total of 48 credit hours (18 credit hours course work and 30 credit hours dissertation) for Management Sciences and Computing.

PhD Degree Milestones

Following is the step by step procedure for PhD:
- Applying for admission along with Statement of Purpose
- Clearing admission requirements of HEC and SZABIST
- Completing course work with required CGPA
- Passing Comprehensive Examination
- Clearing proposal defense
- Completing dissertation
- Completing publication requirements
- Clearing Pre-Defense Seminar
- Receiving Satisfactory reports from foreign evaluators
- Clearing Open Defense

Two interdisciplinary courses can be allowed with the approval of both relevant Program Managers subject to the relevancy of courses.

Comprehensive Examination

After completion of the required course work that includes 5 courses and one IRS, all PhD students must pass the PhD Comprehensive Examination in two attempts as per HEC requirement. Failure to pass comprehensive examination in two attempts will result in cancellation of admission. Maximum Course Load allowed in each semester is nine credit hours.

After successfully passing it, the candidate will get PhD candidacy and he/she will be assigned a research supervisor.

Research Proposal

The candidate shall prepare a research proposal under the guidance of research supervisor. At the start of dissertation, the student will work on Proposal for Dissertation comprising of six credit hours. The PhD research proposal must be presented before the Panel of Examiners duly approved by DC/BASR. The Research Proposal Defense must be cleared within 1st six semesters from the date of admission. Failure to pass Research Proposal Defense within 1st six semesters from the date of admission will result in cancellation of admission.

Dissertation

A student may register for 3, 6, 9 or 12 credit hours in regular semesters (Spring or Fall). However, for registration in 12 Credit Hours, approval from Program Manager is required. Registration in 12 credit hours can be done only once throughout research phase. No registration is allowed in Summer in general, as it is not a regular semester. The time frame for completing PhD Degree is minimum three years and maximum eight years.

Publication Requirements

All PhD candidates are required to publish research paper/(s) in the area of their research as per HEC Graduate Policy-2023. The paper/(s) must be published before sending the dissertation to two foreign evaluators.

ADMISSION REQUIREMENTS

Pre-Defense Seminar(s)

Before sending the dissertation to two foreign evaluators belonging to technologically advanced countries in the relevant field, the candidate has to demonstrate his or her research work in front of a panel of experts. The candidate is required to incorporate the necessary changes as proposed by the panel of evaluators in the Pre-Defense Seminar.

External Evaluation of PhD Dissertation

The dissertation is evaluated by external evaluators as per the criteria prescribed by HEC Graduate Policy-2023. If the dissertation is sent again to the same evaluator after major revision, or if it is sent to a 3rd evaluator, the evaluation fee will be borne by the student along with all the additional charges.

Open Defense

After receiving minimum two satisfactory evaluation reports from the foreign evaluators, the candidate is required to appear for PhD open defense. A formal presentation of dissertation is required to be produced before Examination Committee in an open defense along with viva voce exam.

Admission Test Alternates

For Bachelors Programs
Applicants may submit a minimum 1100/1600* score of SAT 1.
The scoring of SAT 1 will be considered as follows;

SAT score	Test Marks
1500 – 1600	50
1400 – 1499	45
1300 – 1399	40
1200 – 1299	35
1100 – 1199	30

*Candidates securing 100% marks in SZABIST's admission test will be equivalent to 50.

For Masters Programs
50% score of GMAT for Master Programs.

For MS Programs
GAT (General)/HAT relevant with minimum 50% score. GRE (General) with a minimum cumultive score of 300.

For Phd Programs
GAT (Subject) with minimum 60% score or SZABIST's own GAT Subject test. GRE (Subject) with minimum score of 640 would be required.

GAT General / HAT relevant with minimum 50 % score or GRE General with minimum cumulative score of 300 is

mandatory for MS programs. GAT Subject with minimum 60% score or GRE Subject with minimum scale score of 640 score is mandatory for PhD programs.

Transfer Policies
Transfer into SZABIST can only be accepted for candidates who have studied or are currently studying at HEC recognized universities. Transferring credits must have a minimum letter grade of B or above (or 80% marks). The request for transfers must be made at the time of admission. Candidates will be required to clear all SZABIST admission requirements.

Bachelor Course Transfer

A maximum of up to 50% credits may be considered for transfer into BBA/BS programs.

MBA Course Transfer

- A maximum of up to 6 credits may be considered for transfer into the MBA 36 credit hours program. Research Project/Thesis is not transferable.

- A maximum of up to 36 credits may be considered for transfer into the MBA 72 credit hours program. Research Project/Thesis is not transferable.

- Only relevant courses of the EMBA (SZABIST) program are transferable into the regular MBA program subject to the eligibility criteria of the MBA program at SZABIST.

MS Course Transfer

Maximum 50% of course work may be transferred which was done within the last two years from the date of admission subject to fulfilling minimum CGPA and other requirements.

PhD Course Transfer

Maximum 50% of course work may be transferred which was done within the last one year from the date of admission subject to fulfilling minimum CGPA and other requirements.

SZABIST Inter-Campus Transfer

For inter-campus transfer, the candidate must fulfill the admission requirements of the given program at the local campus as per applicable transfer policy.
All courses/grades are transferable. A transfer fee will be payable by students transferring from any other SZABIST campus.

Certificate Course Transfer

For transfer candidates from the SZABIST Certificate Programs, transferability of certificate courses is as follows:

ADMISSION REQUIREMENTS

- Maximum 05 courses are transferable in under graduate program.

- 2/3 courses are transferable in Masters program except for MS or equivalent.

- For MS, Maximum 2 Certificate Courses may be transferred which were done within the two years from the date of admission subject to fulfilling minimum CGPA and other requirements.

- For PhD, Maximum 2 Certificate Courses may be transferred which were done within the last one year from the date of admission subject to fulfilling minimum CGPA and other requirements.

The minimum letter grade of Certificate courses from SZABIST which are transferable to regular degree program: for all master's program except for MS, C+ and above and for bachelor's programs C and above.

The minimum letter grade of Certificate courses from SZABIST which are transferable to regular degree program: for all master's program except for MS, C+ and above and for bachelor's programs C and above. For MS Programs: Equivalent courses with Grade Point of 2.75 (B-) and above for SZABIST Students; and 70% or above marks for external students. For PhD Programs: Equivalent courses with Grade point of 3.00 (B) and above for SZABIST Students; and 80% or above marks for external students.

The minimum letter grade of Certificate courses from SZABIST which are transferable to regular degree program: for PhD its B and above, for MS its B- and above, for all master's program its C+ and above and for bachelor's programs its C and above.

Financial Assistance

SZABIST offers financial assistance to eligible and deserving students in the form of various SZABIST-funded and external donor-funded scholarships as under:

- SZABIST Merit-Based Scholarship

- SZABIST Need-Based Scholarship

- General Subsidy

- Sindh Police Shaheed Scholarship

- SZABIST Employee Children Fee Concession

- SZABIST Employee Continuing Education Scholarship

- Sindh Education Endowment Fund Scholarship

- Baluchistan Education Endowment Fund Scholarship

- USAID Funded Merit and Need-Based Scholarship

- Various community-based scholarships

- SZABIST also offers loan facilities as under:

- Ihsan Trust's Qarz-e-Hasna Interest Free Loan Facility

LIFE AT SZABIST

FACILITIES

Video Conferencing

SZABIST is the first educational institute in Pakistan that introduced multi-point interactive Video Conferencing (VC) technology in 2001. SZABIST regularly uses VC technology in interactive learning sessions among Dubai, Islamabad, Larkana, Hyderabad and Karachi Campuses as well as in conducting seminars, lectures and presentations with foreign universities. Video Conferencing has been the most effective mode at SZABIST in bringing in live and interactive guest lecturers from national and international experts. Video Conferencing technology opens the door to exciting and valuable learning experiences. By allowing access to and interaction with resources that might have otherwise been too inconvenient or expensive, Video Conferencing ensures a highly enriched learning environment. By taking the lead in opening this field in educational practices, SZABIST also lead in creating the most advantageous nexus between cutting-edge technology and effective learning.

Conferences/Forums/Seminars/Guest Lectures

To increase awareness and understanding of information technology and business-related issues, many conferences, forums, seminars and guest lectures are organized regulary. These seminars and lectures are in continuation of SZABIST University policy towards entrepreneurship development and networking. Seminars are conducted and attended by the leading figures from business and industry as these sessions address various business practices.

Professional Development Courses

SZABIST University also offers several productivity- based certificate courses as part of its continuing education program. The courses are developed jointly by the faculty, specialists and certified trainers in specific subject areas. The aim of these courses have been to initiate discussion and modeling of practical problems, business opportunities and to improve understanding of current issues in Information Technology, Business and Management. These courses include topics such as e-Commerce, New Programming Languages & Tools, Business & Entrepreneurship Management, Selling Skills, Conflict Resolution, Effective Leadership, and Productivity, Quality-Related Issues, Brand Management and Digital Marketing.

In addition to business productivity courses, the institute arranges study groups, mentor workshops and courses for students for removing deficiencies, if any. These courses include Business Communication, Technical Writing, Public Speaking, Personality Grooming, Interviewing Techniques and learning of Statistical Package for the Social Sciences (SPSS).

Classrooms/Labs/Libraries

Classroom sessions at SZABIST are quite different from other professional university setups. Teachers pay individual attention to the limited number of candidates selected purely on merit. Instructors encourage participation instead of a monologue. Students utilize various visual aids for presentations and are always on alert because of the regular unannounced quizzes, assignments and the mid-term exams. All classrooms are air-conditioned and are equipped with multimedia projectors, wall mounted screens and white boards. All classrooms are equipped with computers along with broadband intranet and internet connectivity with electricity backup through UPS.

SZABIST computer laboratories are regularly revamped with brand new labs space, furniture and latest machines with giga bite network connectivity to cater student's requirements. "Campus licensing" of latest software, including development tools, and operating systems provide an unmatchable environment compared to majority of well-reputed universities of Pakistan.

SZABIST has computing facilities supported with 24x7 broadband connectivity of 295 Mbps committed bandwidth to the internet and intranet. SZABIST is Wi-Fi enabled since 2002. Two new computer labs are added to the existing labs infrastructure. Students and guest are welcome with their BYOD and can access all network available resources wirelessly. SZABIST has also acquired Microsoft IT academy and Oracle Academic Alliance program.

A dedicated Lab for Management Science program is established for research development and training purpose for students MS and PhD program this lab is equipped with tremendous high speed 12th generation computers for students.

SZABIST established Smart Lab equipped with tremendous high speed 12th generation laptops for students. These laptops are connected with SZABIST network through Wi-Fi.

A state of the art Smart screen is also available for teacher and students. They can interact with each other in more effective and robust way.

SZABIST has commissioned Robotics and Artificial Intelligence lab equipped with tremendous high speed GPU laptops for students. These laptops are connected with SZABIST network through Wi-Fi and brand bend to cater students assignments and projects.

LIFE AT SZABIST

SZABIST library holds a rich collection of books, Journals, Magazines, and a large number of digital libraries and online databases. SZABIST Library has 25 workstations through which students can access an unlimited number of journals and magazines. This facility is further extended to registered students through the SZABIST network on demand. SZABIST library provides comfortable physical spaces and furniture with a peaceful environment. Moreover, SZABIST has its own Research Centers, i.e., the Centre of Renewable Energy Research (CRER), and Sustainable Development Research Centre (SDRC) with their own specialized library for reference and general reading.

Moreover, SZABIST has its own Research Centers, i.e., the Centre of Renewable Energy Research (CRER), and the Sustainable Development Research Centre (SDRC) with its specialized library for reference and general reading.

Research Committee (RC)

SZABIST places high emphasis on research & development and devotes conscious efforts to promote research culture among faculty and students alike. In this regard, a Research Committee (RC) is constituted to coordinate, record, and formalize diverse research activities across different departments and campuses to bring harmony and create an impact for national and international recognition of the university. Research publications produced by faculty and students are given a handsome remuneration depending on the level and merit of publications, vetted by RC. All sorts of participations in national and international conferences by the faculty & staff are approved by the RC. This may also propose a change in research policy for the university to BASR.

Board of Advanced Studies and Research (BASR)

The objective of BASR is to facilitate and monitor Academic Research at MS and Ph.D. levels and to regulate policies related to Research Publications. The BASR discusses and approves or disapproves the recommendations forwarded by Doctoral and Research Committees across all campuses of SZABIST University. The board proposes by-laws and policies regarding MS & PhD programs and the initiation, execution, and award of research degrees. It also provides approvals on the appointments of supervisors for MS and PhD research students and endorses titles and synopses for the theses or dissertations.. The decisions taken in BASR are ratified in the Academic Council.
The frequency of BASR's meetings is twice a year. BASR's meetings are chaired by the Vice President Academics and its secretary is the Registrar. The members of BASR include Deans, HoCs, HoDs and External experts from academia or industry.

Academic Council

The Academic Council is the highest academic statutory body of SZABIST University. The Council is empowered to approve or disapprove any agenda item forwarded through a due process to it. The agenda items are generally related to introduction of new program, changes in existing program structure, introduction of new courses, revision in course outlines, policy framework related to entry and exit of students and policy matters pertaining to research and development. The agenda items are first prepared at the departmental level and presented in the Board of Studies (BOS) meetings, chaired by the HODs (Head of Departments). All departments at all campuses conduct similar meetings at their respective campuses. Item approved by BOS across all campuses are forwarded to the relevant Dean, who compiles all BOS meeting's agenda and circulates the same to relevant departments under him/her.

Agenda items are thoroughly deliberated at this level. All HODs across campuses and their designated BOF members attend the BOF meetings, which are chaired by the relevant Deans. BOF meetings include some external members from academia and industries as well. The approved items from all BOF meetings are forwarded to the Registrar through Vice President (Academics). The registrar is the secretary of the Academic Council (AC), who compiles all the BOF-forwarded agenda items at one place and circulates it to all the members of the Academic Council. If the agenda items are related to Research work or research related polices, these are included for discussion in the Board of Advanced Study and Research (BASR) meetings. BASR agenda booklet also include the approved items of Doctoral Committee (DC) and Research Committee (RC).

The frequency of AC and BASR meetings is twice a year. AC meetings is chaired by the President and Co-chaired by Vice President Academics. BASR meetings are chaired by the Vice President Academics. The members of AC & BASR include Deans, Registrar, HoCs, HoDs and external experts from academia and industry.

Office of Research Innovation and Commercialization (ORIC)

ORIC is an academic support department in Shaheed Zulfiqar Ali Bhutto Institute of Science & Technology (SZABIST) that provides comprehensive services for research innovation and commercialization. It serve as a bridge in between multiple faculties of SZABIST and produces quality research and innovative products for filing patents / trademarks / designs.

LIFE AT SZABIST

ORIC is the epicenter of all research and development activities within all campuses of SZABIST. It provide assistance to faculty members and research students in producing research article / projects, at national as well as international level and arranges periodic workshop / training /seminar / conferences.

ORIC shorten the gap between acquired knowledge and required knowledge within the organization. The complete working of ORIC evolve in coaching, counseling, recognition and feedback. The leadership of ORIC is concerned with integrity, impartiality, professionalism, partner focus, efficiency, and mutual respect.

Team ORIC is continuously engaged in providing strategic direction to all research and development initiatives produced within the territory of SZABIST, and in promoting joint research activities with other horizontal and vertical partner institutions.

ORIC strengthen the relationship with industry, government and non-government organizations for promoting entrepreneurship, technology transfer, and commercialization activities produced.

ORIC concentrate on sustainability and reliability of the research products and has a mandate to earn yearly revenue from licensing, royalties, policy advocacy and other related activities.

Moreover, ORIC also invest in capacity development of the faculty, staff and other researchers in the university. It periodically arranges exhibitions, showcasing events, industry linkages fairs, and seminars at one side while training, workshop, innovation, and commercialization seminars on other side.

WHY ORIC

In recent millennium, global knowledge economy has strengthened the need for strategic partnerships that go beyond their traditional roles as collaborators.

World-class research universities are at the forefront of pioneering such partnerships. They are intended to run longer, invest more, look beyond and sharpen the competitiveness of industries, universities and regions.

Keeping in view of these challenges, the Office of the Research, Innovation and Commercialization has been initiated at SZABIST, Karachi.

The mission of ORIC as outlined by HEC is "Transforming Pakistani universities to drive high impact innovation, applied research and entrepreneurship". The ORIC's vision is to enable and lead Pakistan's transformation to a knowledge-based economy dependent upon innovation and entrepreneurship.

The Office of Research Innovation and Commercialization is being established to link research and commercialization from SZABIST with emerging and existing firms across Pakistan and around the world.

As an umbrella, ORIC is meant to work closely with the researchers and on campus Incubators and S&T Park. The ORIC office also serves as a conduit to local, regional and federal partners to ensure research results aid the growth of Pakistan's economy.

ORIC is meant to work on commercialization of research and helping startups to incubate, grow, create new jobs, products, services, markets, carry out innovation and bring in funding. The following are the prime activities of ORIC at SZABIST:

- Managing applied research, innovation and commercialization activities within the universities through industrial collaboration;
- Intellectual Property Commercialization through documentation, evaluation, protection, marketing, licensing and royalties agreements;
- Partnership with national / foreign universities, government departments, and non- government organizations for reports, publication, contracts and consultancies;
- Participate in government programs and in securing funding for research from public and private sector;
- Organizing training, workshop, seminars, focus group discussions for maintaining academia - industry linkage as well as capacity development;
- Help final year students through startups and joint ventures.
- Managing functions of Business Incubation Centre by empowering entrepreneurs with the mentorship, training and access to capital assistance.

ORIC IN 2024 - 25

ORIC SZABIST secured X catagory (67 Marks) in HEC evaluation 2023-24, which is leading towards research intensive university and bidding global research projects and collaboration.

ORIC SZABIST is continuously strengthening its relationship with the faculty and non-faculty members of SZABIST inwards, and with government & non-government organizations, industry and other higher educational institutions outwards.

LIFE AT SZABIST

Main purpose of this association is to develop a long term industry – academia relationship that would cadre the essential elements of the fourth wave of industrial revolution (Industry 4.0).

Industry 4.0 is the origin of a new revolution since it integrate virtual and physical system of manufacturing and improved productivity, efficiency and quality of the product. Big Data, artificial intelligence and digital conversion of industrial processes, are essential ingredients of this wave.

ORIC has compiled its Five Year Plan with special emphasis of industry (4.0). Sustainable Competitive advantage is the only objective of this proposal which can be achieved through training & development, coaching and guiding the future scientist and researchers. This plan has also defined "Input – Throughput – Output" strategy that creates enabling environment for linking academia with the industry.

ORIC SZABIST has completed it s half journey for academic session 2023-24 and achieved the target of Research Excellence through: competitive grant management, coordination & networking, policy advocacy, case studies and civic engagement events. Similarly, ORIC is promoting Innovation & Commercialization activities through: IP legislation, IP linkages, networking & coordination, and commercialization activities.

ORIC has published Research Funding Window (RFW) and Country Profile - Research & Innovation Indicators (CPRII) for researcher and scientists. ORIC SZABIST contesting several national and international research projects such as Medical Research Council United Kingdom and Higher Education Commission (HEC) supported grants Technology Development Fund (TDF) and Rapid Technology Transfer Grant (RTTG).

ORIC SZABIST has fully functional website an and ranked in "X Category according to latest HEC evaluations .During the reference period of 2023–24 ORIC engaged in the mentoring and nurturing activities of Final Year Project students through the Business Lounge initiative and emerged as a winner in the National Idea Bank III Competition 2024, which was held at Aiwan-e-Saddar Islamabad on February 15, 2024. ORIC has organized numerous workshops and trainings on patent filing, innovative research, and project development activities for researchers, faculty members, and students.

ORIC helped inter-departmental intellectual property claims and facilitated their submission to IPO Pakistan. It is actively engaged in industry-academia linkages and periodically invites successful businesspeople to share their success stories with the students. ORIC also hosted mentoring and collaboration activities within different departments of the university and provided its assistance to develop strategic relationships with government, donors, and the private sector. It played a pivotal role and contributed to the success of ZAB E FEST, a yearly showcasing event of the university, and provided seed money assistance to the potential FYPs

Business Incubation Centre (BIC has been established at SZABIST University to provide basic infrastructure and allied facilities for research and young entrepreneurs who are interested in developing early-stage business ventures. Our Goal is to facilitate and produce successful firms that will contribute to community and economy.

We have launched the 1st Cohort at BIC and organized Bootcamp for awareness. We anticipate the graduates of BIC may create jobs, revitalize neighborhood, commercialize new technologies and strengthen local and international economies. Instead of creating job seekers, we try to turn new graduates into job providers.

For further i nformation about ORIC SZABIST please visit oric.szabist.edu.pk

Data Centre

The Data Center has been designed with the Telecommunication Industry Association's (TIA-942) Tier-II international infrastructure standards including raised flooring, redundant HVAC precision units, fire detection, alarm & suppression system, precision UPS & power system, CCTV and access control system for remote monitoring. The Data Center is responsible for providing LAN & WAN connectivity, Web Services, Video Conferencing, hosting private cloud services and Server Farm (including Domain Controllers, Proxy, Email, Web, Network Management, Electronic Bulletin Board, ZABDESK ERP and many more) and other related services of all five campuses, ZABTECH and IMC.

Computing Resources
Computing resources of the data center is comprising of 20 TFLOPS of processing speed with high performance and reliable 100 Tera Bytes of storage capacity. The data center is equipped with UPS backup and 12-ton redundant precision cooling system for reliability of data center and protected by FM-200 based Automatic Fire Detection and Suppression System and manual fire extinguishers. CCTV cameras and Access Control systems are intact for effective surveillance and restricting unauthorized access to the facility.

Campus Network Infrastructure
Campus network is based on n-tier architecture which includes security, core, distribution and access layers. The backbone comprises three upper layers i.e. security, core

LIFE AT SZABIST

and distribution as well as primary & backup fibre optic link connectivity for all buildings. In Data Center, redundant Chassis-based routers, core and distribution switches and firewalls with high transmission rate are commissioned, where device and link redundancy has been maintained at every level to ensure un-interrupted ICT services to users. Gigabit Access Network has also been commissioned to ensure high-speed computing at user end, where access switches of high switching capacity are installed to handle data and multimedia traffic, efficiently. Proper NMS server installed to monitor and manage the whole network infrastructure, which can send alert on any fault, performance bottleneck and/or security issues.

Wireless Mesh Network
A secured Wi-Fi mesh network has been implemented throughout the campus. Wireless indoor and outdoor Access Points (APs) have been installed to give internet/intranet access to students, faculty and staff employs latest wireless protocol 802.11n with each AP providing a bandwidth up to 300 Mbps to the users.

Newsletters
SZABIST publishes Newsletter on regular intervals from all its campuses to update about the activities taking place at the campuses.

ZABFM
(www.zabfm.org)
ZABFM digital is a streaming simulcast radio station exclusively to impart and disseminate education for the students around the world via www.zabfm.org and ZABFM DIGITAL (Play store). An initiative taken by Shaheed Zulifkar Ali Bhutto Institute of Science & Technology and it was a substantive step into the field of education. It is an honor for the nation as we are producing the talented and most efficient candidates in the form of great speakers to the nation along with the responsibility of spreading knowledge through the airwaves. The 24/7 programming schedule covers various subjects of life like, Career Counseling, Planning & Development, Education, Infotainment, Awareness, Research, Documentaries, Talk Shows, Sports, Travel, Science & Technology, Media, Culture & Society, Technology & Inventions, Info-tech and social order, etc.

Student Support Services
For more than a decade (2009-to date), the main campus of SZABIST has been fortunate to have a unique and diverse student body with a healthy record of activities and a proud history of achievements. Since 2014, with the establishment of the Department of Student Support Services a more organized and focused approach has been adopted with the aid of student advisory policies and guidelines for

activities in the form of standard operating procedures and financial prudence guidelines with emphasis on paperwork and documentation/reports for record keeping all of which added much needed structure to student activities at the institute. The Student Advisory Office and the Executive Development Centre (EDC) work under the SSS.

In 2015, the same system was gradually introduced at other campuses of SZABIST and by now they have all had annually elected student council bodies.

The Student Support Services aim to provide students with a platform that allows them to conduct activities which work towards the development of a stronger, wiser and a more united student populace in Karachi. It works to inculcate in young minds the values of unity, tolerance, inclusion and leadership and through engagement with other campuses of SZABIST and universities across the country realize the objectives of our core areas of focus, nationally as well.

The Student Support Services has an Office of Student Advisory and the Student Career Services and Alumni Relations working under it.

The Office of Student Advisory
The Office of Student Advisory/Affairs provides guidance on all extra-curricular activities that take place on campus. The Student Affairs Advisor:

- Manages and supervises overall activities of Student Societies and SZABIST Student Council (SSC) at SZABIST, Karachi. Acts as a liaison between the SSC and the management of SZABIST.
- Ensures that SSC and its societies' activities are held in compliance with the SSC constitution, financial and administrative procedures and SZABIST management guidelines.
- Arranges student activities within and outside campus through Activities Coordinators and staff of the Department of Student Support Services.
- Counsels students regarding their behaviour and general guidance and helps them to understand their potential and ways to pursue their goals.
- Certain cases may be referred to Head of Student Support Services or Vice President (Academics)

SZABIST Student Council (SSC)
Established in 2009, the SSC has been a union of hardworking, ambitious and talented individuals across all programs of SZABIST elected under the Election Commission of SZABIST. The selection of SSC workforce is by means of rigorous process all on an annual basis to form the student government at the institute, under the supervision of the Student Affairs Advisor.

Furthermore, it acts as a parent body to its chapters in other campuses of SZABIST namely, SSC-Hyderabad Chapter, SSC-Islamabad Chapter SSC- Larkana Chapter, SSC-Dubai Chapter and SSC-Gharo Chapter.

What does SZABIST Student Council (SSC) do?
The SSC has been engaged in initiating wide range of meaningful activities ranging from intellectual programs to competitive sporting events. Among the most notable is the annual LEAD Convention, where SSC provides a platform to the young leaders, from all universities across the city, to contemplate over the global issues that require sustainable yet immediate solutions.

To offer a vibrant and healthy students environment at SZABIST, the SSC also arranges the Annual Orientation to welcome the new students, Beach Party, Musical Concert, Mehfil-e-Mushaira, Qawwali night, Graduation Week and many more other entertaining events.

SSC, being a proactive student body, engages in community services to inculcate a responsible citizenship behaviour among students. In this regard, the SSC has signed MoUs with different organizations and NGOs to contribute in various noble causes. Urban Forest and The ELF (Environmental Leaders Forum) are two such MoUs where the SSC is practically engaged in environmental protection and conservation through trainings, awareness programs, fundraisers, students' projects and other healthy activities. The SSC has also joined hands with the Ismail Industries Foundation for reducing the use of plastic on campus. In collaboration with the Ismail Foundation, special bins have been placed across all campuses to collect plastic on a daily basis. Burns Centre is another organization, the SSC and Rotaract Club of Karachi Campus have vowed to work for. Under this MoU, the students of SZABIST contribute to

spread awareness among masses related to managing injuries due to burns and their precautions. Further, SSC has also extended help to the countrymen whenever there is a need in times of national crisis like the flood disaster in the year 2022.

Structure of SSC
The SSC is an elected student body that is comprised of the Executive Branch (EB), Council of Common Interests (or Program Representatives), General Body and Societies Committee.
The Executive Branch of the SSC consists of elected members to serve as President, Vice President, General Secretary, Treasurer, Secretary Legal, Secretary Operations, Secretary Resource Mobilization, Secretary Media and Communication and Secretary Projects and Training.

The Five Pillars of SSC
The SSC and all its student associations and clubs fall under the purview of and are registered with, the Office of Student Advisory once they are formed. The SSC has 5 thematic pillars, under which different student societies and projects operate. Each student society offers engaging events and programs for the students at SZABIST. The events include Farewell Dinner and Alumni Reunion, Graduation Week, Recreational Trips and Learnfest from the Student Council. SZABIST Cricket League and Sportfest from the Sports Society, Educational Study Tours from Social Sciences Society, Startup Extravaganza from the Entrepreneurial Society and Retail Extravaganza from the Marketing Society. ZABWELFARE arranged Medical Facilitation Camps and various donation drives (food commodities, clothes and tents) for the Flood Affectees, Blood Donation Drives for Thalassemia Patients and Plantation Drives.

The 5 pillars and respective societies are mentioned below:

LEADERSHIP	SPORTS	PROFESSIONAL & TECHNICAL	COMMUNITY SERVICE & CIVIC ENGAGEMENT	ARTS & CULTURE
▼ SZABIST Oratory Society	▼ SZABIST Sports Society	▼ SMS	▼ SZABIST Social Sciences Society	▼ SZABIST Arts Society
▼ SZABIST Character Building Society		▼ SES	▼ SZABIST Welfare Society	
▼ AIESEC		▼ SFS		
		▼ SCS		
		▼ ACM		
		▼ IEEE		
		▼ MLSA		
		▼ Google DSC		

LIFE AT SZABIST

SZABIST Student Career Services & Alumni Relations

The office of Career Services and Alumni Relations work simultaneously to facilitate graduating students and Alumni, the core responsibility is to helps graduating students and alumni to launch and build their careers as public service leaders.

SZABIST Student Career Services (SCS)

Student Career Services at SZABIST University Hyderabad campus facilitates students in completing their degree requirements, professional development, and job/internship placements.

Throughout academic tenure, the students are encouraged to attend customized trainings, personal development programs, webinars, corporate workshops, mock interviews and presentations by industry experts who share their experiences to help them understand the transition from campus to the corporate world.

The Office has developed a comprehensive and diverse program to ensure that students have a seamless transition from university life to the professional world as per their individual interests and aspirations.

Student Career Services compiles graduating students' profiles and publishes the annual graduate directory in order to provide SZABIST graduates to credible organizations.

Job & Internship Placements

In collaboration with the industry, Student Career Services at SZABIST University arranges job/internship recruitment drives and management trainee programs by reputable national and multinational companies. SCS facilitates students for internships and job openings in the corporate sector throughout the year.

An annual "Career Fair" is held in the beginning of every year at the campus in which leading companies are invited to discuss their recruitment policies and procedures, their current resource requirements and future vacancies. The students receive an opportunity to interact with company representatives directly.

To bridge the gap between classroom and market, SZABIST University has instituted a mandatory internship program to fulfil the requirement according to the Higher Education Commission of Pakistan. Apart from enabling students to

get the feel of an office environment, internships expose them to potential employers for possible recruitment.

Eligibility for Internship

- Masters Degree students with at least two semesters completed at SZABIST University.
- Bachelors degree students with at least six semesters completed at SZABIST University.
- Minimum duration of internship is six weeks.
- Preference is given to those students who are about to graduate and need an internship as a pre-requisite for their degree completion.

Alumni Relations

The Alumni Relations Department at SZABIST University Hyderabad Campus plays a central role in fostering and maintaining strong connections between the university and its graduates. Committed to building a lifelong relationship with alumni, the department organizes various events, reunions, and networking opportunities to facilitate interactions among former students. Through these initiatives, the department aims to keep alumni informed about the university's developments, achievements, and ongoing projects. Additionally, the Alumni Relations Department actively seeks feedback from graduates to enhance the quality of education and services provided by SZABIST. A body with a name SZABIST Alumni Global Association (SAGA) is there to build strong bond with alumni. The vision of SAGA is "To empower the SZABIST Alumni for exploring new avenues and expanding knowledge for continuing their journey of self-discovery". By nurturing a sense of pride and belonging among alumni, the department contributes to the overall growth and reputation of the university, ensuring that graduates remain integral members of the SZABIST community long after their academic journey concludes.

LIFE AT SZABIST

ZABSolutions

SZABIST has its own software house that fulfills the software needs of the SZABIST. The state-of-the-art applications that ZABSolutions has developed and evolved are successfully supporting and fueling the complete academic process of the SZABIST. The complete academic process flow of students from filling the online admission form to the printing of transcript and degree runs on ZAB LMS (ZAB Learning Management System).

Several educational institutions in Pakistan have shown their interest in ZAB LMS. The academic process of several institutions in Pakistan will soon be migrated onto our ZABLMS.

The ZABSolutions incubator help students foster their software skills. Students can access ZABSolutions' resources and knowledge to develop their skills and competencies, which are important to compete in the market. Following are the objectives of the incubator:

1. Provide a practical framework for knowledge and technology transfer to the students
2. Develop the confidence and competencies for building e-firms
3. Involve students in software research and development
4. Enhance partnership between industry and academia
5. Provide faculty and the students with innovative support facilities

National and International Linkages and Collaborations

SZABIST is a registered member of the following international and national associations:

1. International Association of Universities (IAU), Paris
2. The Association to Advance Collegiate School of Business (AACSB), Singapore
3. Asia-Pacific Quality Network (APQN), People's Republic of China
4. The Talloires Network, USA
5. The Chartered Institute of Logistics and Transport (CILT), UK
6. Management Association of Pakistan (MAP), Karachi
7. Marketing Association of Pakistan (MAP), Karachi

Moreover, SZABIST has signed MoUs, articulation and collaboration agreements with the following national and international universities and institutions:

1. **Association of Chartered Certified Accountants ACCA, UK**
   The MoU will provide exemption from ACCA papers to Bachelors of Business Administration and BS Accounting & Finance courses.

2. **Balochistan Education Endowment Fund Scholarship, Pakistan**
   Under this MoU Government of Balochistan will be

   proving fully funded scholarship to 5-6 meritorious and financially challenged students of SZABIST who are local domicile certificate holders of Balochistan. The scholarship will be for the complete duration of the degree program.

3. **CISCO Networking Academy**
   SZABIST Karachi Campus is an authorized CISCO Network Academy to conduct IT-essentials, CCNA routing & switching, and CCNA security certifications.

4. **Coventry University, UK**
   Through this MoU, SZABIST students enrolled in Bachelors of Arts in Business Studies (BABS) will be conferred Coventry University degree on completing two years of education at SZABIST and one year at Coventry University, UK.

5. **Greenstar Social Marketing Limited (GSM), Pakistan**
   Through this MoU SZABIST and GSM will work on the field of research pertaining to Family planning and child health.

6. **Ihsan Trust, Meezan Bank Pakistan**
   The MoU with Ihsan Trust is aimed at provision of Qarz-e-Hasna (Interest-free Loan) facility up to 50 % of tuition fee to SZABIST students.

7. **Integration Xperts (Private) Limited, Pakistan**
   Integration Xperts (Private) Limited and SZABIST will do Joint Research and Development on Bio-Sciences Health Tech Solutions such as Mobile Diagnostics, Diabetes Management and Remote Health Monitoring of Infants and Old Age people.

8. **Sindh Integrated Emergency and Health Services (SIEHS)**
   SIEHS and SZABIST University have joined hands to promote research, public awareness, capacity building, and student engagement in the field of emergency and health services.

9. Mitsubishi Corporation, Japan

Mitsubishi Corporation through this MoU would be Awarding scholarships to students enrolled in BSMS and BBA.

10. NOWPDP

NOWPDP a Disability Inclusion Initiative and SZABIST Karachi-BBA have joined hands for supporting initiatives for persons with disabilities in the province of Sindh. Both the parties will facilitate access to opportunities and services for persons with disabilities.

11. OPEN Organization of Pakistani Entrepreneurs of North America

SZABIST and OPEN Karachi Chapter will jointly establish student chapter to promote entrepreneurship and innovation among Pakistani youth by providing trainings, conducting workshops and seminars.

12. Orange Tree Foundation OTF, Pakistan

SZABIST collaborated with Orange Tree Foundation for providing scholarships for the students of SZABIST. This MoU ensures equitable opportunities of education for all the needy yet bright students. To bring them at par of mainstreaming through creating a critical mass of talented youth for the development of society.

13. Sindh Police Shaheed Scholarship

The MoU will enable children of Shaheed Police Officers of Sindh to study at SZABIST on scholarship. The MoU will be applicable to the Police employees who embraced SHAHADAT while performing their duty within the jurisdiction of the Sindh province.

14. Tabba Kidney Institute

SZABIST and Tabba Kidney Institute will participate in collaborative research and in capacity building activities and both will conduct academic research to get further insights into the areas of Urology. Students of Bachelor of Science in Public Health (BSPH) will get the opportunity of certificate-based volunteer work in TKI. To foster increased interaction among TKI research staff, SZABIST faculty and advanced / graduate students engaged in scientific and scholarly research in areas of mutual interest.

15. The Citizen Foundation, TCF Pakistan

As part of social responsibility, SZABIST and TCF have collaborated to facilitate TCF students with admission fee waiver, and scholarship opportunities to study in any of SZABIST degree programs.

16. The Chartered Institute of Logistics and Transport (CILT), UK

SZABIST has signed a MoA with CILT for introducing certification in logistics and transport. To attain this certification, a total of three mandatory courses will have to be completed.

17. University of London, UK

SZABIST is a registered center of University of London for giving tuitions for its LLB program.

18. CIMA

SZABIST BSAF, BBA, BABS, BSENT, EMBA, and MBA (non-finance electives) students and alumni will be exempt from all 13 courses and will only attempt three case studies. MBA students with finance electives and BS (Accounting & Finance) alumni will be exempt from all 13 courses and operational-level case studies and will only attempt two case studies. BSAF students are exempted from all 13 courses of Chartered Institute of Management Accountants (CIMA) qualification, and are only required to pass three case studies. Whereas, BSAF alumni will be exempted from all 13 courses and operational level case studies and will only attempt two case studies.

19. National Clearing Company of Pakistan Limited (NCCPL)

SZABIST and NCCPL commit to organize awareness sessions, recruit talented students and explore possibilities in relation to the development of Capital Market through Investor Education, Curriculum Development, and Jointly Holding of Conference/ Seminar on Capital Markets.

20. Pathfinder

SZABIST and Pathfinder aim to collaborate, develop and launch innovation startups, learning hubs on ideas such as Reproductive health, Family Planning, Climate change and it's Impact on women. Students of Life Sciences and Social Sciences will be working to provide solutions for the above stated issues.

21. Health Services Academy

The potential areas of collaboration between both parties are; Internships and practicum for the MSPH students, Joint/Mutual Research programs, collaboration for funded Projects, Conferences, Seminars, Certificate and diploma programs, On-the-job research training programs, and Faculty development program.

22. Afzaal Memorial Thalassemia Foundation (AMTF)
SZABIST BABS Program will help the AMTF to conduct Blood Drives annually, for which all the resources will be arranged by AMTF. The Blood collected through Blood Drive will be used for the treatment of Thalassemia Patients.

23. Indus Hospital & Health Network (IHHN)
Through this MoU SZABIST and IHHN will make joint efforts to promote initiatives that aim to foster a sense of Social Responsibility among the students.

24. The Hunar Foundation (THF)
An understanding is developed with The Hunar Foundation (THF) to be a CSR Partner for the BS Entrepreneurship Program. SZABIST BS Entrepreneurship Program students will facilitate THF in raising funds through fund-raising activities. THF may assign capstone projects to SZABIST Faculty of Management Science students in the areas of marketing, policy matters, research, and any other area. THF will participate in Job Fairs and Recruitment Drives of SZABIST.

25. GETZ Pharma & BIDE
GETZ Pharma, BIDE, and SZABIST joined hands to foster a culture of collaboration to improve healthcare indicators in Pakistan. It will allow experienced physicians, researchers, and students at BIDE and SZABIST in scientific research to generate valuable insights into the areas of NDCs, particularly Diabetes. The three patrons will also engage in activities centered on the capacity building of healthcare providers.

26. FPCCI
FPCCI will effectively and professionally support SZABIST in its efforts to establish academic and research systems for addressing the challenges of national industry in terms of existing, emerging and future technologies.

27. Social, Entrepreneurship, and Equity Development (SEED) Ventures
Seed Ventures and SZABIST University will collaborate to conduct an entrepreneurship program aimed at fostering entrepreneurial skills and innovation.

FACULTY OF MANAGEMENT SCIENCES

VISION
SZABIST Faculty of Management Sciences aspires to become one of the leading entities for excellence in business education, service, research and innovation.

MISSION
SZABIST Faculty of Management Sciences is committed to:

- Produce highly qualified business professionals to meet dynamic and challenging contemporary needs;
- Generate knowledge and expertise for business and economic solutions through research;
- Create an enabling environment for corporate and entrepreneurial outlook;
- Serve the community through students, faculty, and alums.

Business Graduates for the Real World

FACULTY OF MANAGEMENT SCIENCES

BBA

SZABIST offers a four-year (eight semesters) BBA degree program of 144 credit hours. This is SZABIST's flagship program. For the BBA program, students are required to complete 46 courses and 03 credit hours Business Project, a 03 credit hours Community Service Project and 03 credit hours Graded Internship. The students will take 4 Program Electives courses from Management, Marketing, Finance, Business Analytics, Entrepreneurship or Supply Chain Management. To obtain the BBA degree, students have to complete 144 credit hours including a six week graded internship. Maximum time limit to complete the BBA degree is six years. BBA program is an ACCA accredited program; those who complete BBA from SZABIST, Hyderabad, will get an exemption in 06 out of 09 ACCA Foundation papers (F1, F2, F3, F5, F7 and F9). BBA students and alumni are exempted from all 13 courses of Chartered Institute of Management Accountants (CIMA) qualification, and are only required to pass three case studies. BBA Program has been accredited by National Business Education Accreditation Council (NBEAC) and is also affiliated with Chartered Financial Analyst (CFA) Institute.

First Year

Fall Semester

BA 1108	IT in Business
BA 1109	Personal Management and Communication
BA 1203	Management Principles
BA 1206	Oral Communication and Presentation Skills
BA 1122	Islamic Studies / Humanities
BA 2313	Sociology
BA xxxx	Ideology and Constitution of Pakistan (2,0)

Spring Semester

BA 1101	Introduction to Accounting
BA 1102	Microeconomics
BA 1105	English Writing Skills
BA 1204	Maths for Business
BA 2403	Business Ethics
BA 2312	Human Behavior

Second Year

Fall Semester

BA 1201	Financial Accounting
BA 1211	Logic and Critical Thinking
BA 3504	Organizational Behavior
BA 2303	Marketing Principles
BA 1202	Macroeconomics
BA 2406	Business and Electronic Communication

Spring Semester

BA 2311	Business Statistics
BA 2411	Cost and Management Accounting
BA xxxx	Natural Science Elective (as offered by Campus)
BA 3502	Entrepreneurship

BA 3507	Consumer Behavior
BA 4810	Community Service Project

Third Year

Fall Semester

BA 3501	Financial Markets and Institutions
BA 3508	Media Management
BA 3605	Statistical Inference
BA 4706	Development Economics
BA 2301	Introduction to Business Finance
BA xxxx	University Elective (as offered by Campus)

Spring Semester

BA 3601	Financial Management
BA 3602	Marketing Management
BA 3603	Business Research Methods
BA 3607	Operations Management
BA 4804	Human Resource Management
BA 3630	Internship/Field Experience**

Fourth Year

Fall Semester

BA 2402	Retail Management
BA 3609	Pakistan Economy
BA 4705	Services Marketing
BA 4704	Management Information Systems
BA 4xxx	Program Elective-I
BA 4xxx	Program Elective-II

Spring Semester

BA 3505	Quantitative Skills
BA 4710	Business Project
BA 4801	Law and Taxation
BA 4814	Project Management
BA 4xxx	Program Elective-III
BA 4xxx	Program Elective-IV

FACULTY OF MANAGEMENT SCIENCES

UNIVERSITY ELECTIVE
(To be offered by the campus as Compulsory courses)

BA 3506   Foreign Languages
BA 3519   Current Affairs
BA 3613   World Economy
BA 3614   Business Analysis and Forecasting*
BA 3619   Enterprise Management
BA 4701   Islamic Banking and Finance*
BA 4707   Marketing Research*
BA 3515   Graphic Design for Multimedia*
BA 3621   Professional Development
BA 3521   Auditing
BA 3522   Social Advocacy and Community Service
BA 3622   e-Commerce*
BA 3523   Software Tools for Business*
BA 4730   Fundamentals of Artificial Intelligence*

Natural Science Electives
(To be offered by the campus as Compulsory courses)

BA 3623   Agricultural Science
BA 3624   Ecology
BA 3625   Environmental Science
BA 3626   Theory of Science

PROGRAM ELECTIVES
Finance
BA 4115   Derivatives
BA 4214   Micro Finance
BA 4218   Financial Research
BA 4735   Islamic Banking and Finance*
BA 4719   Investment Banking
BA 4724   Financial Modeling
BA 4727   Dynamics of Banking
BA 4752   Financial Reporting and Analysis
BA 4831   Portfolio and Investment Management
BA 4833   Security Analysis
BA 4834   Treasury and Funds Management
BA 4855   Financial Risk Analysis
BA 4867   Business Analysis and Forecasting*
BA 4769   Fintech
BA 4774   Alternative Investments

Marketing
BA 4116   Supply Chain Management
BA 4125   Emerging Media
BA 4126   Trade Marketing
BA 4217   Experiential Marketing
BA 4836   Marketing Research*
BA 4721   Advertising
BA 4722   Brand Management

BA 4739   Export Marketing
BA 4815   Event Management
BA 4816   Industrial Marketing
BA 4821   Media Planning
BA 4824   Sales Management
BA 4842   Graphic Design for Multimedia*
BA 4859   Product Innovation and Design
BA 4866   Integrated Marketing Communications
BA 4762   Digital Marketing
BA 4868   Marketing Analytics
BA 4874   e-Commerce*

Supply Chain Management
BA 4116   Supply Chain Management
BA 4126   Trade Marketing
BA 4768   Total Quality Management
BA 4739   Export Marketing
BA 4742   Customer Relationship Management
BA 4764   Dynamics of Logistics and Distribution
BA 4824   Sales Management
BA 4859   Product Innovation and Design

Management
BA 4116   Supply Chain Management
BA 4117   Salary and Compensation
BA 4711   Change Management
BA 4712   Industrial Relations and Labor Laws
BA 4713   Leadership and Motivation Techniques
BA 4812   Recruitment and Selection
BA 4813   Training and Development
BA 4815   Event Management
BA 4826   Talent Management
BA 4837   Performance Appraisal
BA 4844   Operations Research

Business Analytics
BA 4773   Programming for Business
BA 4871   Business Intelligence Tools and Techniques
BA 4872   Consumer Insights and Analytics
BA 4771   Block Chain for Business
BA 4772   Digital Assets
BA 4869   Social Media Analytics
BA 4873   Software Tools for Business*
BA 4867   Business Analysis and Forecasting*
BA 4868   Marketing Analytics

Entrepreneurship
BAxxx   Finance and Taxation for Entrepreneurs
BAxxx   Product Innovation and Design
BAxxx   Digital Entrepreneurship
BAxxx   Entrepreneurial Marketing
BAxxx   Family Business Management
BAxxx   Financial Venture

FACULTY OF MANAGEMENT SCIENCES

BAxxx   SME Management
BAxxx   Social Entrepreneurship
BAxxx   Technopreneurship
*University Elective can be taken as an Elective if not offered by the Campus as a compulsory course.

All courses may not necessarily be offered every year. Alternate Courses may be substituted as and when required. Full time academic load is 18 credits hours. All students are required to register for full load in the first semester.

All Muslim undergraduate students (Fall 2024 intake and onwards) would be required to clear **BA 1210 Teachings of Holy Quran** non-credit course to be eligible for the degree.

**Internship/Field Experience
The students will be required to complete a graded internship of minimum 6 weeks in 6th semester or in summers after the 6th semester or program relevant field experience of minimum 06 months duration   to qualify for the degree.

BS Accounting & Finance

BS A&F is a four-year (eight semesters) program and consists of 144 credit hours of teaching. Students are required to complete 47 courses, 3 credit hours Capstone Project, and 3 credit hours graded internship to graduate. The maximum duration to complete this degree program is six years. Graduates of BS A&F will get exemptions in nine papers of both Institute of Chartered Accountants of Pakistan (ICAP) and Association of Chartered Certified Accountants (ACCA), UK. BS A&F students are exempted from all 13 courses of Chartered Institute of Management Accountants (CIMA) qualification, and are only required to pass three case studies. Whereas, BS A&F alumni will be exempted from all 13 courses and operational level case studies and will only attempt two case studies.

SZABIST also offers 2.5-year Bachelor of Science in Accounting & Finance (BS A&F-2.5) program exclusively for CAF qualified students of the Institute of Chartered Accountants of Pakistan (ICAP). CAF qualified students are exempted from 60 credit hours (20 course) of course work and have to complete 78 credit hours (27 courses) of course work, 3 credit hours Capstone Project, and 3 credit hours graded internship.

Students of BS A&F-4 year and 2.5 year have the option to take:
- Finance as Major and Accounting as Minor
- Accounting as Major and Finance as Minor

Bachelor of Science in Accounting & Finance (BS A&F) 4-Year Program Courses

First Year

Fall Semester
AF 1101   Business Mathematics*
AF 1102   Computer Concepts and Applications*
AF 1104   Introduction to Financial Accounting*
AF 1108   Ideology and Constitution of Pakistan **
AF 1109   English Comprehension &
              Oral Communication*
AF 1111   Islamic Studies/Humanities**
AF 1112   Sociology**

Spring Semester
AF 1201   Advanced Financial Accounting*
AF 1211   Business Management*

AF 1213   Human Behavior
AF 2301   Business and Technical English Writing*
AF 2405   Principles of Microeconomics*
AF xxxx   Natural Science Elective***

Second Year

Fall Semester
AF 1202   Calculus for Business Studies
AF 1212   Essentials of Marketing
AF 2302   Cost Accounting*
AF 3501   Accounting and Financial
              Information Systems
AF 3505   Principles of Macroeconomics*
AF 4703   Introduction to Business Finance*

FACULTY OF MANAGEMENT SCIENCES

Spring Semester

AF 2401   Management Accounting
AF 2404   Money and Banking
AF 2406   Statistics and Probability*
AF 2409   Personal Management and
            Professional Development
AF 2411   Entrepreneurship
AF 3503   Business Ethics

Third Year

Fall Semester

AF 3506   Statistical Inference
AF 3507   Financial Institutes and Markets
AF 3511   Auditing -I*
AF 3606   Taxation*
AF 3607   Corporate Accounting*
AF 3608   Islamic Banking and Finance

Spring Semester

AF 2408   Business Analysis and Forecasting
AF 3605   Financial Reporting*
AF 3609   Business Research Methodologies

Bachelor of Science in Accounting & Finance (BS A&F) 2.5-Year Program Courses

First Year

Fall Semester

AF 1108   Ideology and Constitution of Pakistan **
AF 1111   Islamic Studies/Humanities**
AF 1112   Sociology**
AF 1202   Calculus for Business Studies
AF 1213   Human Behavior
AF xxxx   Natural Science Elective***
AF 3503   Business Ethics

Spring Semester

AF 2401   Management Accounting
AF 2404   Money and Banking
AF 2411   Entrepreneurship
AF 3501   Accounting and Financial
            Information Systems
AF 3506   Statistical Inference
AF 4702   Financial Management

Second Year

Fall Semester

AF 1212   Essentials of Marketing
AF 2408   Business Analysis and Forecasting
AF 2409   Personal Management and
            Professional Development
AF 3507   Financial Institutes and Markets
AF 3608   Islamic Banking and Finance
AF 4801   Corporate Finance

AF 3611   Auditing-II*
AF 4702   Financial Management
AF 4812   Internship/Field Experience****

Fourth Year

Fall Semester

AF 2305   Organizational Behavior*
AF 4701   Business and Labor Law*
AF 4712   Capstone Project
AF 4801   Corporate Finance
AF 4xxx   Finance/Accounting Elective-I
AF 4xxx   Finance/Accounting Elective-II

Spring Semester

AF 4707   Company Law*
AF 4711   e-Commerce and Management
            Information System
AF 4806   Human Resource Management
AF 4807   Marketing of Financial Services
AF 4xxx   Finance/Accounting Elective-III
AF 4xxx   Finance/Accounting Elective-IV

Spring Semester

AF 3609   Business Research Methodologies
AF 4806   Human Resource Management
AF 4812   Internship/Field Experience****
AF 4xxx   Finance/Accounting Elective-I
AF 4xxx   Finance/Accounting Elective-II

Third Year

Fall Semester

AF 4711   e-Commerce and Management
            Information System
AF 4712   Capstone Project
AF 4807   Marketing of Financial Services
AF 4xxx   Finance/Accounting Elective-III
AF 4xxx   Finance/Accounting Elective-IV

**Minor and Major courses for
BSAF-4 year and 2.5 year programs**

Accounting Minor Courses

AF 2302   Cost Accounting*
AF 2401   Management Accounting
AF 3605   Financial Reporting*
AF 3607   Corporate Accounting*

Finance Minor Courses

AF 3606   Taxation*
AF 3608   Islamic Banking and Finance
AF 4702   Financial Management
AF 4703   Introduction to Business Finance*

FACULTY OF MANAGEMENT SCIENCES

*Exempt courses for CAF qualified students of Institute of Chartered Accountants of Pakistan (ICAP).

PROGRAM ELECTIVES
Accounting Major
AF 4721   Advanced Audit and Assurance
AF 4722   Advanced Performance Management
AF 4723   Forensic Accounting
AF 4732   Tax Crime and Fraud Investigation
AF 4735   Accounting for Islamic Finance
AF 4821   Public Sector Accounting
AF 4822   Strategic Business Reporting
AF 4831   Forensic Analytics
AF 4835   Advanced Taxation

Finance Major
AF 4724   Advanced Financial Management
AF 4725   Analysis of Investment and
          Management of Portfolios
AF 4726   Behavioral Finance
AF 4727   Dynamics of Banking
AF 4728   Financial Modeling
AF 4729   Financial Econometrics
AF 4731   Fraud and Risk Management in
          Financial Institutions
AF 4733   Alternative Investments
AF 4734   Financial Derivatives
AF 4823   Financial Risk Analysis
AF 4824   Financing of SME
AF 4825   International Finance
AF 4826   Quantitative Data Analysis
AF 4828   Treasury and Funds Management
AF 4829   Fintech

AF 4832   Financial Data Analytics
AF 4833   Investment Banking
AF 4834   Islamic Insurance-Takaful

Courses are subject to change.
** 2 Credit Hours courses
*** Proposed **Natural Science Electives** are:
AF 1116   Agricultural Science
AF 1117   Ecology
AF 1118   Environmental Science
AF 1119   Theory of Science

**** **Internship/Field Experience**
The BSAF 4-Year students will be required to complete a graded internship of minimum 6 weeks in 6th semester or in summers after the 6th semester and BSAF-2.5 Year students will be required to complete a graded internship of minimum 6 weeks in 4th semester or in summers after the 4th semester or program relevant field experience of minimum 06 months duration as per HEC Undergraduate Policy 2023 to qualify for the degree.

All Muslim undergraduate students (Fall 2023 intake and onwards) would be required to clear AF1210 Teachings of Holy Quran noncredit course to be eligible for the degree.

All courses may not necessarily be offered every year. Alternate courses may be substituted as and when needed. Fulltime academic load is 18 credit hours. All students are required to register for full load in first semester.

MBA Program

For students with 4-year undergraduate degree/16-years of education, the minimum duration of the MBA program is 2 years. Twenty-two courses (66 credit hours) and 6 credit hours of Research Project OR Thesis spread over two semesters (3+3) are required to complete the program. Students are also required to complete a six-week internship. The maximum duration to complete MBA program is 4 years. MBA Program is also accredited by National Business Education Accreditation Council (NBEAC).

MBA (non-finance electives) students and alumni are exempted from all 13 courses of Chartered Institute of Management Accountants (CIMA) qualification, and are only required to pass three case studies. MBA students with finance electives and alumni are exempted from all 13 courses and operational-level case studies and will only attempt two case studies.

First Year

Fall Semester
BA 5301   Financial Accounting*
BA 5419   Business Management and Ethics*
BA 5418   Managerial Communication*

* Exempted courses for BBA and Equivalent degree holders.

The students with 4-year BBA/BABS/BS (Accounting & Finance)/BS (Entrepreneurship) or equivalent degree are exempted 36 credit hours of course work. The

FACULTY OF MANAGEMENT SCIENCES

BA 5502   Quantitative Tools for Managers*
BA 5302   Microeconomics*
BA 5106   Marketing Management*

Spring Semester
BA 5402   Macroeconomics*
BA 5205   Human Resources Management*
BA 5411   Cost and Management Accounting*
BA 5401   Introduction to Business Finance*
BA 5405   Statistical Inference*
BA 5501   Applied Research Methods

Second Year

Fall Semester
BA 5601   Strategic HRM
BA 5105   Financial Management*
BA 5203   Strategic Marketing
BA 5xxx   Program Elective-I
BA 5xxx   Program Elective-II
BA 5508   Research Project-I (3 Credits) OR
BA 5507   Thesis-I (3 Credits)

Spring Semester
BA 5104   Strategic Management
BA 5208   Strategic Finance
BA 5308   International Business
BA 5xxx   Program Elective-III
BA 5xxx   Program Elective-IV
BA 5608   Research Project - II (3 Credits)
BA 5607   OR Thesis-II (3 Credits)

PROGRAM ELECTIVES
Finance
BA 5132   Analysis of Financial Statements
BA 5133   Corporate Finance
BA 5134   Derivatives
BA 5135   Financial Markets and Institutions
BA 5138   Econometrics
BA 5139   Financial Risk Analysis
BA 5151   International Finance
BA 5155   Mergers and Acquisitions
BA 5179   Commodity Pricing
BA 5187   Business Analysis and Forecasting
BA 5229   Financial Modeling
BA 5232   Portfolio and Investment Management
BA 5262   Behavioral Finance
BA 5294   Venture Capital and Private Equity
BA 5298   Financial Reporting and Analysis
BA 5454   Real Estate Investments and Finance
BA 5349   FinTech
BA 5459   Islamic Capital and Money Markets

minimum duration of degree for such students will . be 1.5-year with the following program structure:

First Year

Fall Semester
BA 5501   Applied Research Methods
BA 5203   Strategic Marketing
BA 5601   Strategic HRM
BA 5208   Strategic Finance

Spring Semester
BA 5104   Strategic Management
BA 5xxx   Program Elective-I
BA 5xxx   Program Elective-II
BA 5508   Research Project-I (3 Credits) Or
BA 5507   Thesis-I (3 Credits)

Second Year

Fall Semester
BA 5308   International Business
BA 5xxx   Program Elective-III
BA 5xxx   Program Elective-IV
BA 5608   Research Project-II (3 Credits) Or
BA 5607   Thesis-II (3 Credits)

All courses may not be offered in every semester. Alternative courses may be substituted as and when required.

A student may take either Research Project or Thesis.

Student may take any of Level-5 electives from the Faculty of Management Sciences except Project Management Electives, subject to the prior approval of the Program Manager.

Banking
BA 5284   Theory and Practice of Lending
BA 5137   International Banking
BA 5175   Banking Operations
BA 5184   Financial Product Regulations
BA 5235   Treasury and Funds Management
BA 5244   Investment Banking
BA 5273   Prudential Regulations
BA 5278   Banking Crises and Management
BA 5358   Applied Islamic Banking and Finance

Human Resource Management
BA 5114   Leadership and Motivation Techniques
BA 5118   Compensation Management
BA 5159   Salary and Compensation
BA 5164   Human Resources Information Systems
BA 5165   Job Analysis and Design

FACULTY OF MANAGEMENT SCIENCES

BA 5167   Talent Management and
             Succession Planning
BA 5185   Leadership Development
BA 5193   HR Operations and Business Partnering
BA 5196   Conflict Resolution
BA 5215   Recruitment and Selection
BA 5216   Training and Development
BA 5239   HR Policy Development
BA 5251   Human Resource Development
BA 5285   Performance Management
BA 5292   HR Analytics
BA 5297   Human Capital Development
             and Analytics
BA 5335   Human Resource Audit
BA 5332   Contemporary Issues in Human
             Resource Management
BA 5435   Human Resource Management and
             Technology
BA 5452   Psychological Contract in Organiza
             tions
BA 5456   Leadership in Practice

Management
BA 5111   Business Process Re-engineering
BA 5112   Change Management
BA 5116   Industrial Relations and Labor Laws
BA 5136   Business Strategy and Policy
BA 5172   Entrepreneurial Business Strategy
BA 5213   Project Management
BA 5295   Crisis Management
BA 5334   Corporate Sustainability
BA 5242   Lean Six Sigma Manufacturing
BA 5434   Hospitality and Tourism Management
BA 5333   Business Theory
BA 5433   Business Application

Business Analytics
BA 5455   Business Data Visualization
BA 5181   Business Intelligence and
             Data Warehousing
BA 5236   Data Analytics for Business
BA 5458   Business Intelligence Tools for
             Managers
BA 5359   Digital Analytics & Consumer Insights

Marketing
BA 5121   Advertising
BA 5122   Brand Management
BA 5123   Consumer Behavior
BA 5124   Customer Relationship Management
BA 5129   Services Marketing
BA 5182   Trade Marketing
BA 5186   Social Marketing
BA 5217   Industrial Marketing
BA 5224   Media Planning and Management
BA 5226   Pharmaceutical Marketing

BA 5227 Sales Management
BA 5228 Retail Management
BA 5246 Public Relations
BA 5256 Integrated Marketing Communications
BA 5259 Emerging Media
BA 5264 Interactive Global and Regional
             Marketing
BA 5269 Marketing Intelligence
BA 5281 Digital Marketing
BA 5293 New Product Development
             Process and Innovation
BA 5198 Experiential and Content Marketing
BA 5438 Marketing Practices in Pakistan
BA 5331 Marketing Analytics
BA 5339 Packaging for Brands
BA 5337 Retail Strategy and Structure
BA 5437 Retail Supply Chain Management
BA 5436 Retail Operations
BA 5336 Retail Buying and Merchandising
BA 5451 Strategic Entrepreneurship
BA 5355 Marketing Strategies for Emerging
             Economies

Supply Chain Management (SCM)
BA 5457   Advanced Manufacturing and
             TPM in SCM
BA 5194   Supply Chain Finance
BA 5263   Dynamics of Logistics and Distribution
BA 5265   Operational Planning in Supply Chain
BA 5266   Strategic Procurement in SCM
BA 5287   Execution and Control of
             Operations in SCM
BA 5142   Materials Management
BA 5432   Green Supply Chain Management
BA 5431   Supply Chain Operations
BA 5449   Strategic Warehouse Management
BA 5439   Green Logistics
BA 5237   Demand Planning and Forecasting
             in Supply Chain
BA 5144   Distribution and Supply Chain
             Network Design
BA 5356   International Trade Procedures
             and Practices
BA 5143   Digital Supply Chain

Non-Credit Hours Course
BA 5110   Software Tools for Business

Internship
All MBA students are required to complete a 6-week
internship. Completion of internship is a degree
requirement for all MBA programs.
Students can produce their current employment
record as an alternative to the internship program
provided such employment experience is recognized
by SZABIST.

FACULTY OF MANAGEMENT SCIENCES

Master of Science in Management Sciences

There are two streams available for Master of Science in Management Sciences. One Stream is by Course Work and other one is by Research Work. In Course Work Stream, the student is required to complete 10 courses of 3 credit hours each. In the Research Work Stream, the student is required to complete 8 Courses and Two IRS OR one Thesis of Six credit hours. In both the streams, 30 credit hours are to be completed. The time limit to earn an MS degree is from 1.5 to 4 years. The detail of two streams is as follows:

1. MS By Course Work Stream

The Scheme of Study is as follows:
*   Six Compulsory Courses
*   Four Program Electives
*   No IRS or Thesis

Compulsory Courses

MS 5137	Research Methods and Techniques
MS 5204	Quantitative Tools for Research
MS 5132	Applied Strategic Management
MS 5104	Strategic Marketing Decisions
MS 5318	Strategic Finance
MS 5238	Strategic Human Resource Development

Program Electives (Program Electives in any of following areas subject to the offering of Course)
*   Finance
*   Marketing
*   Human Resource Management
*   Business Analytics

First Year

Fall Semester

MS 5137	Research Methods and Techniques
MS 5132	Applied Strategic Management
MS 5238	Strategic Human Resource Development
MS 5104	Strategic Marketing Decisions

Spring Semester

MS 5204	Quantitative Tools for Research
MS 5318	Strategic Finance
MS 5xxx	Program Elective I
MS 5xxx	Program Elective II

Second Year

Fall Semester

MS 5xxx	Program Elective III
MS 5xxx	Program Elective IV

2. MS By Research Work Stream

The Scheme of Study is as follows:
*   Six Compulsory Courses
*   Two Program Electives
*   Two IRS OR Thesis

Compulsory Courses

MS 5137	Research Methods and Techniques
MS 5204	Quantitative Tools for Research
MS 5132	Applied Strategic Management
MS 5104	Strategic Marketing Decisions
MS 5318	Strategic Finance
MS 5238	Strategic Human Resource Development

Program Electives (Program Electives in any of following areas subject to the offering of Course)
*   Finance
*   Marketing
*   Human Resource Management
*   Business Analytics

First Year

Fall Semester

MS 5137	Research Methods and Techniques
MS 5132	Applied Strategic Management
MS 5238	Strategic Human Resource Development
MS 5104	Strategic Marketing Decisions

Spring Semester

MS 5204	Quantitative Tools for Research
MS 5318	Strategic Finance
MS 5xxx	Program Elective I
MS 5xxx	Program Elective II

Second Year

Fall Semester

MS 5xxx	IRS I and IRS II OR
MS 5xxx	Thesis (Part I)

Spring Semester

MS 5xxx	Thesis (Part II) If Any

FACULTY OF MANAGEMENT SCIENCES

PROGRAM ELECTIVES

Finance
MS 5113 Financial Time Series
MS 5103 Managerial Economics
MS 5105 Econometrics
MS 5111 Derivatives and Financial Risk
MS 5115 Operations and Mathematical Modeling
MS 5134 Behavioral Finance
MS 5206 Modern Financial Applications
MS 5215 Corporate Finance
MS 5217 Corporate Finance Planning and Decisions
MS 5218 Financial Markets
MS 5237 Business Finance and Decision Making
MS 5414 Applied Econometrics
MS 5421 Capital Asset Pricing Model
MS 5425 Empirical Asset Pricing
MS 5317 Seminars in Finance
MS 5426 Mathematical Modeling in Finance
MS 5412 Islamic Banking and Finance
MS 5461 Fintech/Data Science for Finance
MS 5452 Applied Time Series Analysis and Forecasting With Software
MS 5469 Risk Management
MS 5459 Financial Modelling with Software

Marketing
MS 5301 Seminars in Marketing
MS 5422 Distribution and Channel Management
MS 5424 Strategic Brand Management
MS 5429 Marketing Metrics
MS 5431 Strategic Entrepreneurial Marketing
MS 5432 Strategic Social Marketing
MS 5428 Global Marketing Strategies
MS 5433 Advertising Research
MS 5434 Behavioral Marketing
MS 5456 Digital Marketing and Social Media
MS 5468 Retailing and Analytics
MS 5465 Market Strategy and Forecasting
MS 5453 Customer Relations Management

Human Resource Management
MS 5101 Change Management
MS 5102 Organizational Development
MS 5202 Organizational Strategies and Effectiveness
MS 5203 Global Corporate Strategy
MS 5205 International Business Management
MS 5211 Creative Leadership
MS 5216 Corporate Governance
MS 5225 Leadership and Motivation Techniques
MS 5229 Negotiations and Conflict Resolution
MS 5241 Public Administration and Governance
MS 5245 System Thinking and Organizational Learning
MS 5303 Issues in Strategic Management

MS 5415 NGO Management
MS 5423 Global Governance and Development
MS 5427 Seminars in HRM

Business Analytics
MS 5467 Tools for Data Analytics (Mandatory for Business Analytics Students)
MS 5454 Data Mining

Finance
MS 5461 Fintech/Data Science for Finance
MS 5452 Applied Time Series Analysis and Forecasting With Software
MS 5469 Risk Management
MS 5459 Financial Modelling with Software

Marketing
MS 5456 Digital Marketing and Social Media
MS 5468 Retailing and Analytics
MS 5465 Market Strategy and Forecasting
MS 5453 Customer Relations Management

Management/HRM
MS 5455 Decision Support System
MS 5464 Management Models
MS 5457 Disaster Management (GIS)
MS 5463 HR Analytics
MS 5466 Performance Management

Supply Chain Management
MS 5471 Strategies for Managing Supply Chain
MS 5451 Advanced Warehouse, Stores and Material Management
MS 5462 Green Supply Chain Management
MS 5458 Distribution Networks

Program Elective courses may vary from time to time. All courses may not necessarily be offered every year. Alternate courses may be substituted as and when required.

Students cannot register in Independent Research Study (IRS) OR thesis without completing six compulsory courses.

Maximum course load for a semester is 4 courses (12 credit hours). Summer is not a regular semester; therefore, courses are not offered on a regular basis in summer. A student can take maximum two interdisciplinary elective courses in SS/CS/IT/ Media/MBA program with the prior approval of respective program managers.

FACULTY OF MANAGEMENT SCIENCES

For PhD Program, students are required to complete 48 credit hours. Five courses of 3 credit hours each, one Independent Research Study of 3 credit hours and one dissertation of 30 credit hours are required. Following are the important points for PhD in Management Sciences:

- There are two compulsory courses in PhD i.e. Advanced Research Methods and Techniques and Advanced Quantitative Tools for Research.
- Students cannot register in IRS before completing all compulsory courses.
- Candidate may be given prerequisite/deficiency courses or thesis which will be decided by the Interview Board at the time of admission.
- Prerequisite Courses are non-credit courses.
- The student will not be allowed to register in Compulsory Courses before completing prerequisite courses/ thesis if any.
- Dissertation of 30 credit hours is Compulsory.
- Registration in Dissertation is allowed after passing Comprehensive Examination, GAT- Subject Test and maintaining minimum CGPA requirement.
- All the requirements of HEC must be fulfilled which include the following:
  - Passing GAT Subject with minimum 60%.
  - Maintaining minimum CGPA requirement for each course and for entire program.
  - Passing Comprehensive examination to establish the PhD candidacy (maximum 2 attempts allowed).
  - Publishing one Research Paper from the thesis in W,X, and Y-category journal before the completion of 30 Credit Hours Dissertation.
- Program Elective courses to be selected from the specialized area of Marketing, Finance and Human Resource Management.
- Maximum course load for each semester is 9 credit hours.
- Time duration for PhD is Minimum 3 years and Maximum 8 years.
- All general guidelines mentioned in DOCTORAL DEGREE PROGRAMS are applicable to PhD-Management Science.

First Year

Fall Semester

MS 6106	Advanced Research Methods and Techniques
MS 6216	Advanced Quantitative Tools for Research
MS 6xxx	Program Elective I

Spring Semester

MS 6xxx	Program Elective II
MS 6xxx	Program Elective III
MS 6xxx	Independent Research Study

Second Year

Fall Semester

MS 6xxx	Dissertation (Proposal)

Spring Semester

MS 6xxx	Dissertation

Third Year

Fall Semester

MS 6xxx	Dissertation

Spring Semester

MS 6xxx	Dissertation

PROGRAM ELECTIVES
Finance

MS 6111	Business Finance and Decision Making
MS 6113	Applied Econometrics
MS 6202	Econometrics
MS 6315	Capital Asset Pricing Model
MS 6317	Empirical Asset Pricing
MS 6318	Financial Markets
MS 6319	Modern Financial Applications
MS 6322	Behavioral Finance
MS 6323	Corporate Finance
MS 6411	Financial Time Series
MS 6418	Operations and Mathematical Modeling
MS 6429	Islamic Banking and Finance
MS 6421	Corporate Finance Planning and Decision

FACULTY OF MANAGEMENT SCIENCES

MS 6422   Derivatives and Financial Risk
MS 6423   Managerial Economics
MS 6325   Seminars in Finance
MS 6425   Strategic Finance
MS 6434   Mathematical Modeling in Finance

Marketing
MS 6204   Strategic Marketing Decisions
MS 6215   Seminars in Marketing
MS 6312   Advanced Marketing Strategy
MS 6316   Distribution and Channel Management
MS 6415   Strategic Brand Management
MS 6431   Marketing Metrics
MS 6432   Strategic Entrepreneurial Marketing
MS 6433   Strategic Social Marketing
MS 6428   Global Marketing Strategies
MS 6326   Advertising Research
MS 6435   Behavioral Marketing

Human Resource Management
MS 6112   Strategic Human Resource Development
MS 6114   NGO Management
MS 6201   Change Management
MS 6205   Public Administration and Governance
MS 6211   Organizational Development
MS 6311   Corporate Governance
MS 6314   Global Corporate Strategy
MS 6321   Organizational Strategies and Effectiveness
MS 6324   Issues in Strategic Management

MS 6412   Creative Leadership
MS 6413   International Business Management
MS 6414   Global Governance and Development
MS 6416   Negotiations and Conflict Resolution
MS 6417   Leadership and Motivation Techniques
MS 6419   System Thinking and Organizational
          Learning
MS 6427   Applied Strategic Management
MS 6424   Strategic Management
MS 6426   Seminars in HRM

Program Elective courses may vary from time to time. All courses may not necessarily be offered every year. Alternate courses may be substituted as and when required.

Course registration is subject to course offering as per Zabdesk each semester. The above course plan is tentative for basic understanding. Students can register in any number of offered course/s but not exceeding 3 courses (9 credit hours) per semester. One extra course can be allowed depending on the approval of program manager. Summer is not a regular semester and no fresh registration is offered during Summer. A student can take maximum two interdisciplinary elective courses from other department's Ph.D program with the prior approval of respective program managers.

FACULTY OF COMPUTING AND ENGINEERING SCIENCES

DEPARTMENT OF COMPUTING

The Department of Computing is aimed to produce globally recognized scientific and technological experts in the field of computing. In the recent decade the computer science has played a catalytic role for many real-world applications. This includes, but not limited to, banking, software house, education, government, commerce, security, healthcare etc. The Department of Computing at SZABIST is committed to produce quality graduated who can satisfy the **national and global contemporary scientific and technological needs.** The students are encouraged to render **cutting edge research & development** in the domain of computing to handle **socio-economic challenges.**

PROGRAMS

The Department of Computing at SZABIST offers degree program both at undergraduate and graduate level. All programs being offered in the Department of Computing are fully in-line with the guidance of Higher Education Commission and in accordance with the national and global industrial needs. The programs being offered at the Department of Computing are accredited by National Computing Education Accreditation Council (NCEAC), Pakistan.

FACULTY OF COMPUTING AND ENGINEERING SCIENCES

The program is offered through a well-trained foreign qualified faculty. It consists of 44 courses (five/six courses per semester) with a total of 130 credit hours. BSCS Program is accredited by NCEAC. The maximum time to complete the degree is six years.

BS (Computer Science) COURSE PLAN (ROADMAP)

Sem.	Codes	Course Title	Cr.Hrs.		Pre-Req.
		First Year			
		Fall Semester			
	CSC 1101	Calculus and Analytical Geometry	3, 0	3	
	CSC 1102	English Composition and Comprehension	3, 0	3	
	CSC 1103	Fundamentals of Programming	3, 0	3	
	CSCL 1103	Lab : Fundamentals of Programming	0, 1	1	
	CSC 1108	Introduction to Computer Science	2, 0	2	
	CSCL 1108	Lab : Introduction to Computer Science	0, 1	1	
	CSC 1107	Applied Physics	2, 0	2	
	CSCL 1107	Lab: Applied Physics	0, 1	1	
			16		
		Spring Semester			
	CSC 1208	Object Oriented Programming Techniques	3, 0	3	CSC 1103, CSCL 1103
	CSCL 1208	Lab: Object Oriented Programming Techniques	0, 1	1	CSC 1103, CSCL 1103
	CSC 1206	Probability and Statistics	3, 0	3	
	CSC 1207	Digital Logic Design	2, 0	2	
	CSCL 1207	Lab: Digital Logic Design	0, 1	1	
	CSC 1209	Islamic Studies/ Humanities	2, 0	2	
	CSC 1211	Ideology and Constitution of Pakistan	2, 0	2	
	CSC 2101	Communication and Presentation Skills	3, 0	3	CSC 1102
			17		
		Second Year			
		Fall Semester			
	CSC 2102	Data Structures and Algorithms	3, 0	3	CSC 1208, CSCL 1208
	CSCL 2102	Lab: Data Structures and Algorithms	0, 1	1	CSC 1208, CSCL 1208
	CSC 1202	Multivariate Calculus	3, 0	3	CSC 1101
	CSC 1201	Discrete Mathematical Structures	3, 0	3	
	CSC 3105	Computer Organization and Assembly Language	2, 0	2	CSC 2103, CSCL 2103
	CSCL 3105	Lab: Computer Organization and Assembly Language	0, 1	1	CSC 2103, CSCL 2103
	CSC 3106	HCI & Computer Graphics	2, 0	2	
	CSCL 3106	Lab: HCI & Computer Graphics	0, 1	1	
	CSC xxxx	University Elective-1	2, 0	2	
			18		
		Spring Semester			
	CSC 2203	Database Systems	3, 0	3	CSC 2102, CSCL 2102
	CSCL 2203	Lab: Database Systems	0, 1	1	CSC 2102, CSCL 2102
	CSC 2204	Finite Automata Theory and Formal Languages	3, 0	3	
	CSC 2206	Linear Algebra	3, 0	3	
	CSC 3202	Design and Analysis of Algorithms	3, 0	3	CSC 2102, CSCL 2102
	CSC 3101	Computer Architecture	3, 0	3	CSC 2201, CSCL 2201
			16		

FACULTY OF COMPUTING AND ENGINEERING SCIENCES

Third Year				
Fall Semester				
CSC 3107	Operating Systems	2, 0	2	
CSCL 3107	Lab: Operating Systems	0, 1	1	
CSC 3201	Compiler Construction	3, 0	3	CSC 2204
CSC 3109	Software Engineering	3, 0	3	
CSC 3108	Advance Database Management Systems	2, 0	2	CSC 2203, CSCL 2203
CSCL 3108	Lab: Advance Database Management Systems	0, 1	1	CSC 2203, CSCL 2203
CSC 3110	Community Service	2, 0	2	
CSC 3111	Entrepreneurship	2, 0	2	
		16		

Spring Semester				
CSC 1205	Technical and Business Writing	3, 0	3	CSC 1102
CSC 3209	Computer Networks	2, 0	2	
CSCL 3209	Lab: Computer Networks	0, 1	1	
CSC 3206	Artificial Intelligence	2, 0	2	
CSCL 3206	Lab: Artificial Intelligence	0, 1	1	
CSC xxxx	CS Elective-1	3, 0	3	
CSC xxxx	CS Elective-2	3, 0	3	
		15		

Forth Year				
Fall Semester				
CSC 4105	Final Year Project-I	0, 3	3	
CSC xxxx	CS Elective-3	3, 0	3	
CSC xxxx	CS Elective-4	3, 0	3	
CSC xxxx	University Elective-2	3, 0	3	
CSC 4107	Information Security	2, 0	2	
CSCL 4107	Lab: Information Security	0, 1	1	
CSC 4109	Professional Practices	2, 0	2	
		17		

Spring Semester				
CSC 4205	Final Year Project-II	0, 3	3	CSC 4105
CSC 4106	Parallel and Distributed Computing	3, 0	3	CSC 2205, CSCL 2205
CSC xxxx	CS Elective-5	3, 0	3	
CSC xxxx	CS Elective-6	3, 0	3	
CSC xxxx	CS Elective-7	3, 0	3	
		15		
Total Credit Hours		**130**		

All the undergraduate Muslim students (Fall 2023 intake onwards) will be required to complete the non-credit course **CSC 1215 Teachings of the Holy Quran**, to qualify for the degree.

A CSC xxxx Mathematics deficiency course will be offered to the students having limited mathematical background, as identified by the relevant PM/HOD.

FACULTY OF COMPUTING AND ENGINEERING SCIENCES

CS ELECTIVES

CSC 4703	Applied Data Mining
CSC 4706	Digital Image Processing
CSC 4708	Enterprise Resource Planning
CSC 4712	IT Innovations
CSC 4714	Network Security and Encryption
CSC 4716	Switching and Routing
CSC 4717	Web Technologies-I
CSC 4718	Wireless and Mobile Technologies
CSC 4719	Game Development
CSC 4721	Introduction to Cloud Computing
CSC 4722	Introduction to Blockchain Technology
CSC 4723	Blockchain and Smart Contract Development
CSC 4802	Android Application Development
CSC 4803	Auditing Information Systems
CSC 4805	Data and Network Security
CSC 4806	Digital Signal Processing
CSC 4807	Embedded Programming
CSC 4808	Ethical Hacking
CSC 4809	iOS Development
CSC 4812	Mechatronics
CSC 4813	Modeling and Simulation
CSC 4814	Software Project Management
CSC 4815	Software Engineering-II
CSC 4816	Technopreneurship
CSC 4817	Web Technologies-II
CSC 4823	Interaction Design
CSC 4824	Embedded Systems
CSC 4825	Computer Graphics
CSC 4826	Introduction to Data Sciences
CSC 4724	User Interface Design
CSC 4725	Introduction to Development and Operations
CSC 4726	Systems and Network Administration
CSC 4827	Software Quality Engineering and Testing
CSC 4727	Hybrid Mobile Application Development
CSC xxxx	No Code Programming

UNIVERSITY ELECTIVES

Each campus may offer university electives as per convenience and availability of resources. The Electives being offered at Hyderabad Campus as are as follows:

CSC 4501	Business and Technology Ethics
CSC 4502	Design and Creativity
CSC 4503	Introduction to Accounting
CSC 4504	Organizational Behavior
CSC 4601	Foreign Languages
CSC 4602	History of Scientific Ideas
CSC 4603	Management Principles
CSC 4604	Research Report
CSC 4605	Sociology
CSC 4606	Psychology

DISTRIBUTION OF CREDIT HOURS

Areas	Cr. Hrs.	Courses
Computing Core	46	14
Domain Core	18	6
Domain Elective	21	7
Mathematics and Supporting Courses	12	4
Elective Supporting Courses	3	1
General Education Requirement	30	12
Total	130	44

All courses may not be offered in every semester. Elective courses may vary from time to time. Alternative courses may be substituted as and when required.

Internship

The internship is scheduled at the end of the third year. After completing the six-week internship, all students must submit a comprehensive report, giving details of their experience and learning.

FACULTY OF COMPUTING AND ENGINEERING SCIENCES

The BS Software Engineering program at SZABIST is a full-time four year degree program comprising eight semesters with minimum of 130 credit hours. The degree program is designed around a set of courses pertaining to the principles of software analysis, design, architecture, development, testing, and maintenance techniques that are necessary to produce high-quality software systems. Some additional courses from the disciplines of Computer Science, Mathematics, Management Science, and Humanities are part of the degree program to develop a broader knowledge base of the students.

The BS Software Engineering program is offered through a trained foreign qualified faculty. It consists of 44 courses with a total of 130 credits hours. The maximum duration to complete the degree is six years.

BS (SOFTWARE ENGINEERING) COURSE PLAN (ROADMAP)

Sem.	Codes	Course Title	Cr.Hrs.		Pre-Req.
		First Year			
		Fall Semester			
	CSC 1101	Calculus and Analytical Geometry	3, 0	3	-
	CSC 1102	English Composition and Comprehension	3, 0	3	-
	CSC 1103	Fundamentals of Programming	3, 0	3	-
	CSCL 1103	Lab : Fundamentals of Programming	0, 1	1	-
	CSC 1108	Introduction to Computer Science	2, 0	2	-
	CSC L1108	Lab : Introduction to Computer Science	0, 1	1	-
	CSC 1107	Applied Physics	2, 0	2	-
	CSCL 1107	Lab: Applied Physics	0, 1	1	-
			16		
		Spring Semester			
	CSC 1208	Object Oriented Programming Techniques	3, 0	3	CSC 1103, CSCL 1103
	CSCL 1208	Lab: Object Oriented Programming Techniques	0, 1	1	CSC 1103, CSCL 1103
	CSC 1206	Probability and Statistics	3, 0	3	
	CSC 1207	Digital Logic Design	2, 0	2	
	CSCL 1207	Lab: Digital Logic Design	0, 1	1	
	CSC 1209	Islamic Studies/ Humanities	2, 0	2	
	CSC 1211	Ideology and Constitution of Pakistan	2, 0	2	
	CSC 2101	Communication and Presentation Skills	3, 0	3	CSC 1102
			17		
		Second Year			
		Fall Semester			
	CSC 2102	Data Structures and Algorithms	3, 0	3	CSC 1208, CSCL 1208
	CSCL 2102	Lab: Data Structures and Algorithms	0, 1	1	CSC 1208, CSCL 1208
	CSC 1201	Discrete Mathematical Structures	3, 0	3	
	CSC 2206	Linear Algebra	3, 0	3	
	CSC 3105	Computer Organization and Assembly Language	2, 0	2	CSC 2103, CSCL 2103
	CSCL 3105	Lab: Computer Organization and Assembly Language	0, 1	1	CSC 2103, CSCL 2103
	CSC 3109	Software Engineering	3, 0	3	
	SEC xxxx	University Elective-1	2, 0	2	
			18		

FACULTY OF COMPUTING AND ENGINEERING SCIENCES

		Spring Semester			
CSC 3107	Operating Systems	2, 0	2	
CSCL 3107	Lab: Operating Systems	0, 1	1	
CSC 2203	Database Systems	3, 0	3	CSC 2102, CSCL2102
CSCL 2203	Lab: Database Systems	0, 1	1	CSC 2102, CSCL2102
SEC 2406	Software Design & Architecture	3, 0	3	
CSC 1202	Multivariate Calculus	3, 0	3	CSC 1101
SEC 2407	Software Requirement Engineering	2, 0	2	CSC 3109
SECL 2407	Lab: Software Requirement Engineering	0, 1	1	CSC 3109
			16	

		Third Year			
		Fall Semester			
SEC 3604	Software Construction & Development	2, 0	2	SEC 2404
SECL 3604	Lab: Software Construction & Development	0, 1	1	SEC 2404
CSC 3209	Computer Networks	2, 0	2	
CSCL 3209	Lab: Computer Networks	0, 1	1	
CSC 1205	Technical and Business Writing	3,0	3	CSC 1102
CSC 3202	Design and Analysis of Algorithms	3, 0	3	CSC 2102, CSCL2102
CSC 3110	Community Service	2, 0	2	
CSC 3111	Entrepreneurship	2, 0	2	
			16	

		Spring Semester			
SEC 3608	Software Quality Engineering and Testing	3, 0	3	SEC 3604, SECL 3604
CSC 4107	Information Security	2, 0	2	
CSC 4107	Lab: Information Security	0, 1	1	
CSC 4109	Professional Practices	2, 0	2	
SEC xxxx	SE Elective-1	3, 0	3	
SEC xxxx	SE Elective-2	3, 0	3	
CSC 3206	Artificial Intelligence	2, 0	2	
CSCL 3206	Lab: Artificial Intelligence	0, 1	1	
			17	

		Fourth Year			
		Fall Semester			
CSC 4105	Final Year Project-I	0, 3	3	
SEC 3603	Software Project Management	3, 0	3	CSC 3109
SEC xxxx	SE Elective-3	3, 0	3	
SEC xxxx	SE Elective-4	3, 0	3	
CSC 4106	Parallel and Distributed Computing	3, 0	3	CSC 2205, CSCL 2205
			15	

		Spring Semester			
CSC 4205	Final Year Project-II	0, 3	3	CSC 4105
SEC xxxx	University Elective-2	3, 0	3	
SEC xxxx	SE Elective-5	3, 0	3	
SEC xxxx	SE Elective-6	3, 0	3	
SEC xxxx	SE Elective-7	3, 0	3	
			15	
	TOTAL CR. HR		130	

FACULTY OF COMPUTING AND ENGINEERING SCIENCES

All the undergraduate Muslim students (Fall 2023 intake onwards) will be required to complete the non-credit course **CSC 1215 Teachings of the Holy Quran**, to qualify for the degree.

**A CSC xxxx Mathematics deficiency course will be offered to those students who have limited mathematical background (if deemed necessary by relevant PM/HOD).

SE Electives

SEC 4516	Artificial Intelligence
SEC 4537	Parallel and Distributed Computing
SEC 4515	Digital Image Processing
SEC 4528	Game Development
SEC 4532	Introduction to Cloud Computing
SEC 4543	Systems Programming
SEC 4544	Technopreneurship
SEC 3614	Computer Graphics
SEC 4514	Introduction to Data Science
SEC 4534	Modeling and Simulation
SEC 3612	Mobile Application Development
SEC 4521	Agent Based Software Engineering
SEC 4522	Big Data Analytics
SEC 4523	Computational Intelligence
SEC 4524	Computer Vision
SEC 4526	Design Patterns
SEC 4511	e-Commerce
SEC 4527	Formal Methods
SEC 4531	Information Systems Audit
SEC 4533	Management Information Systems
SEC 4535	Multimedia Communication
SEC 4536	Natural Language Processing
SEC 4538	Real Time Systems
SEC 4539	Semantic Web
SEC 4519	Software Engineering Economics
SEC 4542	Software Metrics
SEC 4545	Topics in Software Engineering
SEC 4518	Visual Programming
SEC 4525	Data Encryption and Security
SEC 4529	Global Software Development

SE Supporting courses

SEC 4713	Digital Logic Design

SEC 4714	Business Process Engineering
SEC 4711	Formal Methods in Software Engineering
SEC 4712	Operations Research
SEC 4715	Stochastic Processes

UNIVERSITY ELECTIVES

SEC 3309	Organizational Behavior
SEC 3307	Foreign Languages
SEC 3308	Management Principles
SEC 3306	Sociology
SEC 3311	Psychology
SEC 3301	Introduction to Management
SEC 3302	Financial Accounting
SEC 3303	Human Resource Management

DISTRIBUTION OF CREDIT HOURS

Areas	Cr. Hrs.	Courses
Computing Core	46	14
Domain Core	18	6
Domain Elective	21	7
Mathematics and Supporting Courses	12	4
Elective Supporting Courses	3	1
General Education Requirement	30	12
Total	130	44

Internship

The internship is scheduled at the end of third year. After completion of the six-week internship, all students are required to submit a comprehensive report, giving details of their experience and learning.

All courses may not be offered in every semester. Elective courses may vary from time to time. Alternative courses may be substituted as and when required.

FACULTY OF COMPUTING AND ENGINEERING SCIENCES

The Bachelor of Science in Artificial Intelligence BS(AI) program is offered by the Department of Robotics and Artificial Intelligence. This comprehensive four-year program encompasses a total of 44 courses, amounting to 130 credit hours. To fulfill the degree requirements, students are provided with internship opportunities, integrating practical experience with academic learning. The BS(AI) program is structured as a full-time, daytime curriculum, meticulously designed to cover the forefront of technological advancements in fields such as Machine Learning, Deep Learning, Explainable AI, Evolutionary Computing, Computer Vision, Software Engineering, and Natural Language Processing. The program comprises of 49 credit hours of Computing Core courses, 15 credit hours of Domain Core courses, 21 credit hours of Domain Electives, 9 credit hours of Mathematics and Supporting courses, 3 credit hours of Elective Supporting courses, and 33 credit hours of General Education Requirement courses. The maximum duration of the program is six years.

Mission Statements

To provide a quality education in Artificial Intelligence in order to produce scientifically, technologically, and professionally competent graduates who are adept to perform a significant role in the continuing transformation of local and global society.

Program Educational Objectives

Following are the Program Educational Objective (PEO)

PEO 1: To equip students with the necessary skills and knowledge to solve complex problems in real-world settings.
PEO 2: To produce graduates practicing in the area of Artificial Intelligence in a socially and ethically responsible way.
PEO 3: To prepare students for lifelong learning skills in Artificial Intelligence and allied disciplines.

Graduate Attributes

To attain the educational objectives of programs, it is intended to produce the following measurable outcomes at the time of graduation. Graduates of the program will have:

a. Ability to apply knowledge of mathematics, science, computing fundamentals and any of its specializations to solve complex problems.
b. Ability to identify, formulate, research literature, and analyze complex problems reaching substantiated conclusions using basic principles of mathematics, natural sciences and computer science.
c. Ability to design solutions for complex problems and design software systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
d. Ability to investigate methodically complex problems including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.
e. Ability to create, select and apply appropriate techniques, resources, and modern IT tools, including prediction and modeling, to complex activities, with an understanding of the limitations.
f. Ability to understand the impact of professional solutions in societal and environmental contexts and apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues.
g. Ability to apply ethical principles and commit to professional ethics and responsibilities and norms of society and professional practice.
h. Ability to work effectively, as an individual or in a team, on multifaceted and/or multidisciplinary settings.
i. Ability to communicate effectively, orally as well as in writing, on complex activities with the community and with the society at large, such as being able to write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
j. Ability to demonstrate management skills and apply systems development principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.
k. Ability to recognize importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

FACULTY OF COMPUTING AND ENGINEERING SCIENCES

BS ARTIFICIAL INTELLIGENCE CURRICULUM

Codes	Course Title	Cr.Hrs.	Pre-Req.
First Year			
Semester - I			
CSC 1101	Calculus and Analytical Geometry	3, 0	-
CSC 1102	English Composition and Comprehension	3, 0	-
CSC 1103	Fundamentals of Programming	3, 0	-
CSCL 1103	Lab: Fundamentals of Programming	0, 1	-
CSC 1108	Introduction to Computer Science	2, 0	-
CSCL1108	Lab: Introduction to Computer Science	0, 1	-
CSC 1107	Applied Physics	2, 0	-
CSCL 1107	Lab: Applied Physics	0, 1	-
	Sub-total	16	

Codes	Course Title	Cr.Hrs.	Pre-Req.
Semester - II			
CSC 1208	Object Oriented Programming Techniques	3, 0	CSC 1103, CSCL 1103
CSCL 1208	Lab: Object Oriented Programming Techniques	0, 1	CSC 1103, CSCL 1103
CSC 1206	Probability and Statistics	3, 0	-
CSC 1207	Digital Logic Design	2, 0	-
CSCL 1207	Lab: Digital Logic Design	0, 1	-
CSC 1209	Islamic Studies/ Humanities	2, 0	-
CSC 1211	Ideology and Constitution of Pakistan	2, 0	-
CSC 2101	Communication and Presentation Skills	3, 0	CSC 1102
	Sub-total	17	

Codes	Course Title	Cr.Hrs.	Pre-Req.
Second Year			
Semester - III			
CSC 2102	Data Structures and Algorithms	3,0	CSC 1208, CSCL 1208
CSCL 2102	Lab: Data Structures and Algorithms	0,1	CSC 1208, CSCL 1208
CSC 3105	Computer Organization and Assembly Language	2,0	CSC 1207, CSCL 1207
CSCL 3105	Lab: Computer Organization and Assembly Language	0,1	CSC 1207, CSCL 1207
CSC 1201	Discrete Mathematical Structures	3,0	-
CSC 3206	Artificial Intelligence	2,0	CSC 1208, CSCL 1208
CSCL 3206	Lab: Artificial Intelligence	0,1	CSC 1208, CSCL 1208
CSC 1202	Multivariate Calculus	3,0	CSC 1101
	Sub-total	16	

Codes	Course Title	Cr.Hrs.	Pre-Req.
Semester - IV			
CSC 3209	Computer Networks	2,0	-
CSCL 3209	Lab: Computer Networks	0,1	-
CSC 2203	Database Systems	3,0	CSC 2102, CSCL 2102
CSCL 2203	Lab: Database Systems	0,1	CSC 2102, CSCL 2102
CSC 3202	Design and Analysis of Algorithms	3,0	CSC 2102, CSCL 2102
AIC 2401	Programming for Artificial Intelligence	2,0	CSC 3206, CSCL 3206
AICL 2401	Lab: Programming for Artificial Intelligence	0,1	CSC 3206, CSCL 3206
CSC 2206	Linear Algebra	3,0	-
AIC xxxx	AI Elective - I	3,0	
	Sub-total	19	

FACULTY OF COMPUTING AND ENGINEERING SCIENCES

BS ARTIFICIAL INTELLIGENCE CURRICULUM

Codes	Course Title	Cr.Hrs.	Pre-Req.
Third Year			
Semester - V			
CSC 3107	Operating Systems	2, 0	-
CSCL 3107	Lab: Operating Systems	0, 1	-
AIC 3501	Artificial Neural Networks	2, 0	AIC 2401, AICL 2401
AICL 3501	Lab: Artificial Neural Networks	0, 1	AIC 2401, AICL 2401
AIC 3503	Machine Learning	2, 0	AIC 2401, AICL 2401
AICL 3503	Lab: Machine Learning	0, 1	AIC 2401, AICL 2401
AIC 3502	Knowledge Representation and Reasoning	3, 0	AIC 2401, AICL 2401
AIC xxxx	AI Elective - II	3, 0	-
CSC 3111	Entrepreneurship	2, 0	-
	Sub-total	**17**	

	Semester - VI		
CSC 1205	Technical and Business Writing	3,0	CSC 1102
AIC 3605	Computer Vision	2, 0	AIC 3501, AICL 3501
AICL 3605	Lab: Computer Vision	0, 1	AIC 3501, AICL 3501
AIC xxxx	University Elective - I	3, 0	-
CSC 3109	Software Engineering	3, 0	-
AIC xxxx	AI Elective - III	3,0	-
CSC 3110	Community Service	2, 0	-
	Sub-total	**17**	

Codes	Course Title	Cr.Hrs.	Pre-Req.
Fourth Year			
Semester - VII			
CSC 4107	Information Security	2, 0	-
CSCL 4107	Lab: Information Security	0, 1	-
CSC 4109	Professional Practices	2, 0	-
AIC 4xxx	AI Elective - IV	3, 0	-
AIC 4xxx	AI Elective - V	3, 0	-
AIC 4707	Final Year Project - I	0, 3	-
AIC xxxx	AI Elective - VI	3, 0	-
	Sub-total	**17**	

	Semester - VIII		
AIC 4807	Final Year Project-II	0, 3	AIC 4707
AIC 4xxx	AI Elective – VII	3, 0	-
CSC 4106	Parallel and Distributed Computing	3, 0	CSC 3107, CSCL 3107
CSC xxxx	University Elective - II	2, 0	-
	Sub-total	**11**	
	Total Credit Hours	**130**	

All the undergraduate Muslim students (Fall 2023 intake onwards) will be required to complete the non-credit course **CSC 1215 Teachings of the Holy Quran**, to qualify for the degree.

The following two mathematics deficiency courses (non-credit courses) will be offered to students with limited mathematical background, as identified by the relevant PM/HOD.

FACULTY OF COMPUTING AND ENGINEERING SCIENCES

CSC xxxx Differential and Integral Calculus
          in Computing
CSC xxxx Algebraic Foundations and Applications
          in Computing

Domain Electives

AIC 4701 Advanced Statistics
AIC 4706 Theory of Automata and Formal Languages
AIC 4802 Data Mining
AIC 4702 Deep Learning
AIC 4805 Speech Processing
AIC 4804 Reinforcements Learning
AIC 4803 Fuzzy Systems
AIC 4703 Evolutionary Computing
AIC 4705 Swarm Intelligence
AIC 4801 Agent Based Modeling
AIC 4704 Knowledge Based Systems
AIC 4814 Numerical Computing
AIC 4712 Game Artificial Intelligence
AIC 4815 Virtual and Augmented Reality
AIC 4715 Web Programming with Django
AIC 4713 Mobile Application Development
AIC 4811 Digital Image and Video Processing
AIC 4812 Generative AI
AIC 4711 Big Data Analytics
AIC 4813 HCI & Computer Graphics
AIC 4714 Natural Language Processing

UNIVERSITY ELECTIVES
The Electives courses offered are as follows:

AIC 4601 Business and Technology Ethics
AIC 4501 Design and Creativity
AIC 4503 Introduction to Accounting
AIC 4504 Organizational Behavior
AIC 4602 Foreign Languages
AIC 4502 History of Scientific Ideas
AIC 4603 Management Principles
AIC 4605 Research Report
AIC 4505 Sociology
AIC 4604 Psychology
AIC 4506   Financial Accounting
AIC 4606   Introduction to Marketing

Distribution of Credit Hours	
Domain	**Cr. Hrs.**
Computing Core	**49**
Domain Core	**15**
Domain Elective	**21**
Mathematics and Supporting Courses	**9**
Elective Supporting Courses	**3**
General Education Requirement	**33**
Total	130

FACULTY OF COMPUTING AND ENGINEERING SCIENCES

MS Computer Science

SZABIST offers MSCS degree in three domains: Core Computer Science area and in two specialization tracks; i.e., Software Engineering (SE) and Networks and Security (N&S) in order to cater to the market needs. Students have to complete 3 focused courses in any specific domain.

The program is of 2-year duration and is offered in the evening. It requires 33 credit hours to complete. Although the institutional administration emphasize and encourage students to undertake research, they can take two courses in lieu of research in specific domains. If student opts for course work only, he/she is required to complete 11 courses of 3 credit hours each. Else, the student is required to complete 9 courses (27 credit hours) and two Independent Research Studies (6 credit hours) OR one Thesis (6 credit hours).

The maximum time limit to complete the MS degree is 4 years.

Master of Science in Computer Science (In Core Computer Science)

First Year

First Semester
CSC 5105   Research Methodology
CSC 5101   Advanced Algorithms Analysis
CSC 5102   Theory of Computation

Second Semester
CSC 5201   Advanced Operating Systems
CSC 5202   Advanced Computer Architecture
CSC 5xxx   Elective-I (from CS Stream)

Second Year

Third Semester
CSC 5xxx   Thesis/Independent Research Study-I OR Course Work (from CS-Stream)
CSC 5xxx   Elective-II (from CS-Stream)
CSC 5xxx   Elective-III (from CS-Stream)

Fourth Semester
CSC 5xxx   Thesis/Independent Research Study-II OR Course Work (from CS-Stream)
CSC 5xxx   Elective-IV (from CS-Stream)

Master of Science in Computer Science (With Specialization in Software Engineering)

First Year

First Semester
CSC 5105   Research Methodology
CSC 5101   Advanced Algorithms Analysis
CSC 5102   Theory of Computation

Second Semester
CSC 5201   Advanced Operating Systems
CSC 5202   Advanced Computer Architecture
SEC 5xxx   Elective-I (from SE Stream)

Second Year

Third Semester
CSC/SEC 5xxx   Thesis/Independent Research Study I OR Course Work (from CS Stream or from SE-Stream)
SEC 5xxx   Elective-II (from SE-Stream)
SEC 5xxx   Elective-III (from SE-Stream)

Fourth Semester
CSC/SEC 5xxx   Thesis/Independent Research Study II OR Course Work (from CS Stream or from SE-Stream)
SEC 5xxx   Elective-IV (from SE-Stream)

FACULTY OF COMPUTING AND ENGINEERING SCIENCES

Master of Science in Computer Science (With Specialization in Networks & Security)

First Year

First Semester

CSC 5105   Research Methodology
CSC 5101   Advanced Algorithms Analysis
CSC 5102   Theory of Computation

Second Semester

CSC 5201   Advanced Operating Systems
CSC 5202   Advanced Computer Architecture
NSC 5xxx   Elective-I (from N&S Stream)

Second Year

Third Semester

CSC/NSC 5xxx   Thesis/Independent Research Study I OR Course Work (from CS Stream or from N&S-Stream)
NSC 5xxx   Elective-II (from N&S-Stream)
NSC 5xxx   Elective-III (from N&S-Stream)

Fourth Semester

CSC/NSC 5xxx   Thesis/Independent Research Study II OR Course Work (from CS Stream or from N&S-Stream
NSC 5xxx   Elective-IV (from N&S-Stream)

CS-Stream

CSC 5164   Real-Time Systems
CSC 5162   Digital Image Processing
CSC 5161   Machine Learning
CSC 5163   Data Mining
CSC 5166   Operation Research
CSC 5167   Deep Learning
CSC 5264   Expert Systems
CSC 5267   Reverse Engineering
CSC 5266   Digital Forensics and Malware Analysis
CSC 5263   Advanced Resource Sharing Architecture
CSC 5262   Computer Vision
CSC 5268   Robotics
CSC 5261   Advanced Database Design
CSC 5265   Distributed Computing
CSC 5269   Systems and Network Programming
CSC 5168   Big Data Analytics
CSC 5271   Natural Language Processing

SE-Stream

SEC 5163   Software Requirement Engineering
SEC 5161   Software System Architecture
SEC 5164   Software System Quality
SEC 5162   Advanced Software Engineering
SEC 5261   Software Analysis and Testing
SEC 5263   Web Engineering
SEC 5262   Software Project Management

N&S-Stream

NSC 5161   Advanced Computer Networks
NSC 5163   Network Security
NSC 5164   Applied Cryptography
NSC 5162   Information Security
NSC 5165   Cyber Security
NSC 5261   Wireless Sensor Networks
NSC 5264   Telecom Policies and Regulations
NSC 5263   Mobile Ad-hoc Networks
NSC 5262   Advanced Data Communications
NSC 5265   Advanced Routing and Switching
NSC 5166   Advanced Ethical Hacking

Pre-Requisites:

- For any advanced course, pre-requisite course must have been taken before.
- For each track, the following courses must have been done prior to admission.

MS (CS) (In Core Computer Science)

Programming Fundamental
Data Structures
Operating Systems
Finite Automata Theory and Formal Languages

MS (CS) with SE-Specialization

Programming Fundamental
Data Structures
Operating Systems
Software Engineering

MS (CS) with N&S-Specialization

Programming Fundamental
Data Structures
Operating Systems
Data Communication and Computer Networks

Full time academic load is three courses. All students are required to register for full load in the first semester.

DEPARTMENT OF SOCIAL SCIENCES

Department of Social Sciences at SZABIST aims to develop both intellectual and practical skill sets for our well-rounded students so that they shall face challenges of the 21st century and translate them into opportunities while keeping in mind social, economic and sustainable requirements of the region and beyond.

FACULTY OF EDUCATION & SOCIAL SCIENCES

BS Social Sciences

To obtain a BSSS degree in Economics, Sociology or International Relations, students are required to complete a total of 142 credit hours within 6 years. The degree consists of a total of 46 courses and a Research Project / Capstone Project.

First Year

Fall Semester

SS 1117	Computer and Web Skills
SS 1116	English for General Purposes
SS 1104	Introduction to Community Development and Philanthropy
SS 1201	Introduction to Social Sciences
SS 1114	Ideology and Constitution of Pakistan (2,0)
SS 1212	Islamic Studies OR
SS 1213	Humanities* (For non-Muslim students)

Spring Semester

SS 1217	Introduction to Psychology
SS 1215	Introduction to Economics
SS 1220	Introduction to Sociology
SS 1216	Introduction to International Relations
SS 1214	Introduction to Development Studies
SS 2413	Philosophy

Non-Credit Hours Course*

SS 1225	Teachings of Holy Quran

Second Year

Fall Semester

SS 2316	English for Academic Purposes
SS 2318	Mathematics and Statistics
SS 2310	Business Ethics
SS xxxx	Major-I
SS xxxx	Major-II
SS xxxx	Major-III

Spring Semester

SS 2418	Statistical Inferences
SS 2410	Entrepreneurship
SS 2407	Ecology
SS xxxx	Major-IV
SS xxxx	Major-V
SS xxxx	Major-VI

Third Year

Fall Semester

SS 3512	Foreign Language-I
SS xxxx	Major-VII
SS xxxx	Major-VIII
SS xxxx	Major-IX
SS xxxx	Major-X
SS xxxx	Major-XI

Spring Semester

SS 3504	Research Methods
SS 3612	Foreign Language-II
SS xxxx	Major-XII
SS xxxx	Major-XIII
SS xxxx	Major-XIV
SS xxxx	Major-XV

Summer Semester

SS 3610	Internship

Fourth Year

Fall Semester

SS 4709	Research Project-I/
SS 4710	Capstone Project-I
SS xxxx	Major-XVI
SS xxxx	Major-XVII
SS xxxx	Major-XVIII
SS xxxx	Major-XIX
SS xxxx	Major-XX

Spring Semester

SS 4809	Research Project-II /
SS 4810	Capstone Project-II
SS xxxx	Major-XXI
SS xxxx	Major-XXII
SS xxxx	Major-XXIII
SS xxxx	Major-XXIV

*Mandatory course.

ELECTIVES

SS 1154	Literature
SS 1165	Human Geography
SS 1157	Comparative Religion
SS 1254	World History
SS 1262	Mass Media
SS 1163	Development and Politics
SS 1263	Culture and Media in Sindh
SS 1164	History of Ideas
SS 4705	Sindh Studies
SS 1264	Introduction to Philanthropy

FACULTY OF EDUCATION & SOCIAL SCIENCES

MAJORS

Sociology

SS 4271 Peace Movements
SS 4141 Mass, Media and Society
SS 4239 Social Justice
SS 4241 Sociology of Education
SS 4242 The Sociology of Poverty
SS 4196 Social Theories-I
SS 4296 Social Theories-II
SS 4171 Class, Caste, and Ethnicity in South Asia
SS 4172 Political Sociology
SS 4272 Social Change in Pakistan
SS 4169 Citizenship
SS 4273 Urbanization
SS 4197 The Sociology of Religion
SS 4198 Sociology of Health
SS 4295 Criminology
SS 4238 Social Entrepreneurship
SS 4220 Media and Violence
SS 4269 Civil Society
SS 4299 Sociology of Terrorism
SS 4609 Sociology of Sex and Gender
SS 4180 Artificial Intelligence and Society
SS 4602 Governance and Social Policy Planning
SS 4601 Digital Sociology
SS 4600 Clinical Sociology
SS 4607 Sociology of Crowd and
        Collective Behavior
SS 4606 Social Problems of Pakistan
SS 4605 Research and Techniques in
        Community Development
SS 4608 Sociology of Family and Marriage
SS 4280 Demography and Social Statistics
SS 4603 Introduction to Violence against Women
SS 4230 Project Development and Management

International Relations

SS 4222 Strategic Studies
SS 4176 Globalization and Global Governance
SS 4174 Central and West Asian Studies
SS 4175 European Studies
SS 4177 Middle Eastern Studies
SS 4179 Politics of Terrorism
SS 4178 Muslim World
SS 4278 Political Geography
SS 4119 Arms Control and Disarmament
SS 4133 Diplomacy
SS 4400 Conflict Resolutions and Confidence
        Building Measures
SS 4290 International Politics and Human Rights
SS 4404 International Law-I
SS 4405 International Law-II
SS 4403 Foreign Policy of the USA

SS 4411 Regional and International Organizations
SS 4408 Modern Political Ideologies
SS 4260 Foreign Policy Analysis
SS 4218 International Political Economy
SS 4409 Nuclear Studies and Non-Proliferation
SS 4412 Regional Connectivity and
        Economic Integration
SS 4407 International Security
SS 4143 Comparative Politics
SS 4413 Theories and Approaches of
        International Relations
SS 4402 Evolution of State
SS 4246 Peace Studies

Economics

SS 4147 Development and Planning
SS 4261 Mathematical Economics
SS 4183 Industrial Economics
SS 4284 Trade Economics
SS 4128 Agriculture Economics
SS 4283 Labour Economics
SS 4184 Poverty and Inequality
SS 4228 History of Economic Thoughts
SS 4249 Pakistan Economy
SS 4155 Basic Econometrics
SS 4151 Managerial Economics
SS 4313 Principle of Microeconomics
SS 4314 Principle of Macroeconomics
SS 4312 Political Economy
SS 4304 Fiscal Policy Analysis
SS xxxx Economic Growth
SS 4190 Intermediate Microeconomics
SS 4306 Intermediate Macroeconomics
SS 4315 Public Sector Economics
SS 4302 Environmental Economics
SS 4300 Energy Economics
SS 4317 Urban Economics
SS 4301 Entrepreneurial Economics
SS 4311 Money and Banking
SS 4250 Financial Economics
SS 4316 Time series Econometrics
SS 4308 Introduction to Development Economics
SS 4307 International Finance
SS 4309 Islamic Economics
SS 4510 Behavioral Economics
SS 4259 Financial Markets & Institutions
SS 4310 Microfinance: Theory and Practices
SS 4305 General Equilibrium Theory

Psychology

PSY 2107 Experimental Psychology
PSY 3105 Developmental Psychology
PSY 2106 Educational Psychology

FACULTY OF EDUCATION & SOCIAL SCIENCES

PSY 2111 Physiological Psychology
PSY 2110 Introduction to Social Psychology
PSY 3110 Personality Theories
PSY 3109 Introduction to Health Psychology
PSY 2112 Psychological Testing
PSY 3102 Clinical Psychology
PSY 2109 Introduction to Organizational Psychology
PSY 2104 Counseling & Psychotherapy
PSY 3101 Addictive Psychology
PSY 2108 Forensic Psychology
PSY 3107 Family and Relationship Counseling
PSY 3114 Rehabilitation Psychology
PSY 3108 Gender Issues in Psychology
PSY 3106 Environmental Psychology
PSY 2103 Community Psychology
PSY 3103 Cognitive Psychology
PSY 3112 Psychodynamic Approaches
PSY 3104 Contemporary issues in Psychology
PSY 2113 Psychopathology-I
PSY 2105 Cross cultural Psychology
PSY 2114 Sports Psychology
PSY 3113 Psychopathology-II
PSY 2115 Statistics in Psychology
PSY 2102 Clinical Internship
PSY 3111 Positive Psychology
PSY 2101 Abnormal Psychology

Sindh Studies
SS 4188 Geography and Geology of Sindh
SS 4287 History and Politics of Sindh
SS 4288 Irrigation System of Sindh

SS 4185 Agriculture in Sindh
SS 4285 Archaeology of Sindh
SS 4186 Anthropology and Culture of Sindh
SS 4286 Art and Architecture in Sindh
SS 4187 Ethnomusicology of Sindh
SS 4289 Sindh's Economy and Commerce
SS 4292 Survey of Sindhi Literature
SS 4189 Philosophy of Sindh
SS 4192 Sindh's Sociology-I: Education and Language Policy
SS 4193 Sindh's Sociology-II: Social Structures and Development
SS 4194 Sindh's Sociology-III: Health, Gender, and Feminism
SS 4293 The Sindhi Diaspora
SS 4291 Sindh's Geopolitical Exigencies
SS 4191 Sindh's Botanical and Zoological Heritage

All courses may not necessarily be offered in every year. Alternate courses may be substituted as and when required.

Full time academic load is six courses. All students are required to register for full load in the first semester.

Internship
The internship is scheduled for summer at the end of the third year. After the completion of the 6-weeks internship, all students are required to submit a comprehensive report giving details of their experience and learning.

ACADEMIC CALENDAR 2024-25 (Hyderabad Campus)

FALL 2024

WEEK	COMMENTS
1	Course Registration
2	IS Thesis Advisors Meeting
3	
4	
5	Teaching Evaluation
6	Teaching Evaluation
7	
8	Mid-Term Exams
9	
10	
11	Last Week to Withdraw from Courses
12	
13	
14	
15	
16	Final Exam Week
17	Final Exam Week
	Comprehensive Exam

Classes Commencement Date

Hyderabad Campus: 17 August, 2024

ACADEMIC CALENDAR 2024-25 (Hyderabad Campus)

SPRING 2025

WEEK	COMMENTS
1	Course Registration
2	
3	
4	
5	Teaching Evaluation
6	Teaching Evaluation
7	
8	Mid-Term Exams
9	
10	
11	Last Week to Withdraw from Courses
12	
13	
14	
15	
16	Final Exam Week
17	Final Exam Week
	Comprehensive Exam

Classes Commencement Date

Hyderabad Campus: 18 January, 2025

PROGRAMS OFFERING AT DIFFERENT CAMPUSES OF SZABIST (FALL 2024)

PROGRAMS	Karachi	Islamabad	Larkana	Hyderabad	Dubai	Gharo
Bachelor of Business Administration (BBA)	✓	✓	✓	✓	✓	✓
Bachelor of Business Administration (BBA 2.5 Years)			✓			✓
BA (Hons.) in Business Studies (BABS)	✓					
BS Accounting & Finance	✓	✓	✓	✓		
BS (Accounting & Finance) 2.5 Years ICAP/CAF Qualified	✓	✓				
BS Entrepreneurship	✓					
BS Computer Science	✓	✓	✓	✓	✓	✓
BS Artificial Intelligence	✓	✓		✓		
BS Software Engineering	✓	✓		✓		
Bachelor of Media Science	✓	✓				
BS Social Sciences	✓	✓	✓	✓		
BE Mechatronic Engineering	✓					
BS Biosciences	✓					
BS Biotechnology	✓					
BS Educational Psychology	✓					
BS Public Health	✓					
Bachelor of Law (LLB)	✓					
Certificate of Higher Education in Common Law (CertHE)	✓					
CILT (UK) Level 5 Professional Diploma in Logistic & Transport	✓					
Diploma in Early Childhood Education and Development	✓					
Master in Business Administration (MBA)	✓	✓	✓	✓	✓	
Executive MBA	✓	✓			✓	
Masters in Project Management	✓	✓	✓		✓	✓
Professional MBA		✓				
Masters in Human Resource Management		✓				
Master of Advertising	✓					
MS Public Health (MSPH)	✓					
MS Biosciences	✓					
MS Biotechnology	✓					
MS Computer Science	✓	✓		✓	✓	
MS (CS) with specialization in Core Computing	✓	✓		✓	✓	
MS (CS) with specialization in Software Engineering	✓	✓		✓	✓	
MS (CS) with specialization in Networks & Security	✓	✓		✓	✓	
MS Cyber Security	✓	✓				
Master of Media Science	✓	✓				
MS Management Science	✓	✓	✓	✓		
MS in Finance & Economics	✓					
MS (Business Analytics)		✓				
MS Developmental Studies		✓				
MS Mechatronic Engineering	✓					
MS Data Sciences	✓	✓				
MS Educational Leadership and Management	✓		✓			
MS Project Management	✓	✓				
MS Social Sciences	✓	✓				
MS (SS) with specialization in Economics	✓	✓				
MS (SS) with specialization in Psychology	✓	✓				
MS (SS) with specialization in Clinical Psychology		✓				
MS (SS) with specialization in Sociology	✓	✓				
MS (SS) with specialization in International Relations	✓	✓				
PhD Social Sciences	✓					
PhD (SS) with specialization in Economics	✓					
PhD (SS) with specialization in Psychology	✓					
PhD (SS) with specialization in Sociology	✓					
PhD (SS) with specialization in International Relations	✓					
PhD Computing	✓	✓				
PhD Management Sciences	✓	✓				
PhD Biosciences	✓					
PhD Educational Leadership and Management	✓					

We just Don't Work Hard
We Work Smart

SZABIST KARACHI CAMPUS
99 and 100 Clifton, Karachi 75600
Phone: 92-21-111-922-478.
Email: info@szabist.edu.pk.
www.szabist.edu.pk
www.facebook.com/szabistofficial

SZABIST ISLAMABAD CAMPUS
Street # 09, Plot # 67 Sector H-8/4,
Islamabad, Pakistan
Phone: 92-051-4863363-5
www.szabist-isb.edu.pk
Email: info@szabist-isb.edu.pk

SZABIST LARKANA CAMPUS
Sachal Colony, Larkana,
Sindh, Pakistan
Phone : 92-74-4752890-3
www.lrk.szabist.edu.pk
Email: info@lrk.szabist.edu.pk

SZABIST HYDERABAD CAMPUS
Ground, 2nd, 3rd, 4th & 8th floor,
State Life Building,
Thandi Sarak, Hyderabad
Phone # 92-22-2782442-43,
Fax # 92-22-2782444
www.hyd.szabist.edu.pk
Email: info@hyd.szabist.edu.pk

SZABIST GHARO CAMPUS
Main National Highway, Filter Plant,
Gharo, Thatta, Tel # 0331-9224771-72-79.
www.ghr.szabist.edu.pk/ .
Email: info@ghr.szabist.edu.pk

SZABIST DUBAI CAMPUS
6th Floor, Block-10, Dubai International
Academic City, Dubai, U.A.E
P.O Box No: 345004,
Phone: +97143664601,
WhatsApp No: +971529708745
Fax: +971 4 3664607
Email: info@szabist.ac.ae
www.szabist.ac.ae

Shaheed Zulfikar Ali Bhutto Institute of Science & Technology University