SZABIST

Shaheed Zulfikar Ali Bhutto Institute of Science & Technology
KARACHI CAMPUS

Discover Yourself

Course Catalogue 2015

We Just Don't Work Hard
We Work Smart

Course Catalogue 2015

The Vision

Shaheed Zulfikar Ali Bhutto Institute of Science and Technology shall be a world class institute recognized globally for its excellence in education, scholarship in research and distinction in service.

The Mission

The Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST) has been established with the objectives of producing highly qualified, scientific and technical personnel to meet the country's requirements; of conducting state-of-the-art scientific and technological research and development in support of the private and public sector; of providing hi-tech scientific and technological assistance to the Pakistan industry to enable it to compete with the world industries in global trading; of providing highly trained scientific and technological personnel to be able to attract the growth of high-tech industries and foreign and Pakistani investment; and of providing a sound socio-economic and scientific base and infrastructure to Pakistan to be able to meet the economic and technological challenges of the 21st century.

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About SZABIST

Shaheed Mohtarma Benazir Bhutto, the first woman Prime Minister of a Muslim country and twice elected Prime Minister of Pakistan founded SZABIST in 1989 to realize the vision of her father, former elected prime minister of Pakistan, Shaheed Zulfikar Ali Bhutto. In his speech at the inauguration ceremony of the Karachi Nuclear Power Plant in 1972, he stated:

"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".

It was in pursuit of this dream that SZABIST was established.

In its first academic year, 1995, SZABIST commenced studies by offering only two degrees i.e. MS in Software Engineering and Master of Business Administration with only 96 students. Since then, SZABIST has made tremendous progress and now offers programs in the disciplines of Management Sciences, Computer Science, Social Sciences, Media Sciences, Law, Mechatronics Engineering, Biosciences, Public Health and Education.

SZABIST has five full-fledged university campuses; Karachi, Islamabad, Larkana, Hyderabad and Dubai, which makes it the only degree granting institution in Pakistan with an international presence.

Pursuit of research is an integral part any educational institutions' life. In this regard, SZABIST pioneered Pakistan's first online research journal, Journal of Independent Studies and Research (JISR) in 2003. In 2009, SZABIST re-dedicated itself to its mission of research and development in science and technology with a number of new initiatives. These are focused on realizing the country's research potential, and developing long-term self-sufficiency in critical areas of energy, biomedicine, and technology.

Reflecting its dedication to excellence, SZABIST continues to grow and prosper as a top ranked institution of higher education. This is a singular achievement for an institution, which relies solely on its own resources, and it certainly augurs well for its future.

A Message by the Chancellor

It gives me great pleasure to welcome you all to Shaheed Zulfikar Ali Bhutto Institute of Science and Technology (SZABIST); a multidisciplinary institution with a variety of programs catering to the academic, social, professional, and creative needs of its students.

Since inception, SZABIST is recognized for providing a holistic and market-relevant tertiary level education. Further to meet the ever changing market demand the courses offered are regularly revised and updated according to the requirement.

In order to streamline the contents of the offered courses and make them fully compatible with the Higher Education Commission's (HEC's) guidelines, the Course Catalogue 2015 has been provided to all students for ease of reference. The document entails detailed and standardized description for courses being offered in Management Sciences, Computer Science, Social Sciences, Media Sciences, Mechatronics, Biosciences, Public Health, Education and Law programs.

The Catalogue has been designed to guide students in understanding the respective degree plans and completion requirements, and independently selecting the elective courses. In addition, the Course Catalogue will assist Program Managers in guiding students to successfully and smoothly complete their respective degree requirements

I wish the students the very best for their academic life at SZABIST and urge them to follow the SZABIST motto, "Discover Yourself" to become the leaders of tomorrow.

Dr. Azra Fazal Pechuho
Chancellor,
SZABIST

A Message by the Acting President

I am extremely pleased to welcome you all to SZABIST, the third highest ranked university in the category of Business across Pakistan, with a tradition of producing high quality corporate leaders.

I congratulate you on being selected to join SZABIST for your higher education where the focus is on the academic life that will prepare you for the challenges of the 21st century. You will be imparted with personally enriching, market relevant, and professionally beneficial skills.

For your guidance a comprehensive Course Catalogue 2015 with streamlined academic curricula has been produced. This Catalogue is one more indicator of SZABIST's growth into a mature institution as it now offers twenty four diversified programs in disciplines of Management Sciences, Computer Science, Social Sciences, Media Sciences, Mechatronics Engineering, Biosciences, Public Health, Education and its International Programs including LLB (University of London, UK) and BA (Hons.) in Business Studies in collaboration with University of South Wales, UK.

At SZABIST, you will have the benefit of having the best quality Faculty, very supportive Academics and Administration staff and a safe, comfortable environment with latest equipment in the laboratories.

I thank the staff members of Institutional Research Department, in particular Ms. Faryal Shahabuddin for collaborating with the Program Managers to prepare this Catalogue and the Marketing Department, especially Mr. Bashir Ahmad, for his work in the design of the Catalogue.

I wish all the students great success in their educational endeavors at SZABIST.

Ms. Shahnaz Wazir Ali
Acting President,
SZABIST

Welcome Message by the Vice President Administration & Finance

Welcome to SZABIST and congratulations on being selected at one of the highest ranked Higher Education Institutes of Pakistan. This Course Catalogue is a compendium of the courses being offered at SZABIST that will stir you to consider the discipline best suited to your requirements.

I am confident that it will serve as a useful resource to use and the key to the renowned faculty at SZABIST through whose courses you will develop the intellectual knowledge and skills with a trained mind, broadened knowledge and a deeper understanding of the continued joy of disciplined learning.

We at SZABIST provide you all the facilities to help you prepare for the marathon which will begin after you graduate. Focus on your goals and study hard to reach where you want to be.

Best wishes for a successful year!

Ms. Nasreen Haque
Vice President (Administration & Finance)
SZABIST

Preface

The Course Catalogue provides a platform for the students of SZABIST to avail in advance information relevant to their respective program course requirements.
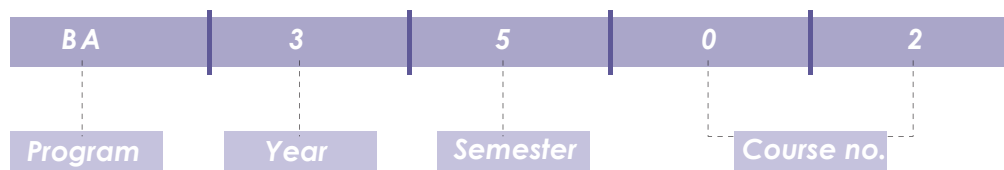
This Catalogue covers the core and/or compulsory courses for all the programs, offered in the following seven faculties:

- ■ **Management Sciences**
- ■ **Computer Sciences**
- ■ **Social Sciences**
- ■ **Media Sciences**
- ■ **Mechatronics Engineering**
- ■ **Biosciences**
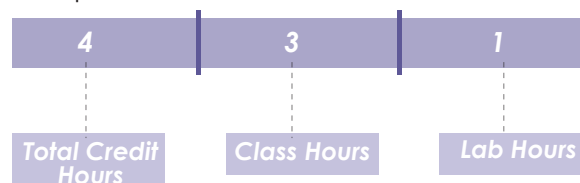- ■ **Education**
- ■ **External Programs**

It provides information on the course credits, prerequisites (if any), course descriptions, and finally the equivalent courses. The students should consult the catalogue before registering for courses on ZabDesk.

Regardless of the academic program, this Catalogue will serve as a guidebook for students throughout their educational term at SZABIST. With the course descriptions, course titles and prerequisites mentioned, the student would easily be able to plan their semesters beforehand.[1]

The courses in each program have been identified by their respective course codes. Therefore, the following course code illustration would assist the students in identifying the courses for a particular semester.

B A	3	5	0	2
Program	Year	Semester	Course no.	

In addition, the composition of the Course Credit Hours is as follows:

4	3	1
Total Credit Hours	Class Hours	Lab Hours

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1 Please note that in case of Law Program and a few courses in other programs, identification of courses for a particular semester by their codes may not apply.

Acronyms

BA	*Business Administration*
BABS	*Bachelor of Arts in Business Administration*
BBA	*Bachelor of Business Administration*
BEME	*Bachelor of Engineering in Mechatronics*
B&F	*Banking & Finance*
BMS	*Bachelor of Media Science*
BS (Bioscience)	*Bachelor of Science in Biosciences*
BSCS	*Bachelor of Science in Computer Science*
BSSS	*Bachelor of Science in Social Sciences*
EMBA	*Executive Master of Business Administration*
HEC	*Higher Education Commission of Pakistan*
IR	*Institutional Research*
IT	*Information Technology*
MBA	*Master of Business Administration*
MD	*Media*
ME	*Mechatronics Engineering*
MPH	*Master of Public Health*
MPM	*Master in Project Management*
MS	*Master of Science*
MS (Bioscience)	*Master of Science in Biosciences*
MSCS	*Master of Science in Computer Science*
MSELM	*Master of Science in Educational Leadership and Management*
MSMS	*Master of Science in Management Sciences*
MSPM	*Master of Science in Project Management*
MSSS	*Master of Science in Social Science*
PhD	*Doctor of Philosophy*
SE	*Software Engineering*
SS	*Social Science*

Schematic Illustration

Given below is an explanation of the various elements of the course catalogue.

This is the duration of a particular course, divided into lecture plus lab hours.

This is the title for the course.

Course Name	Analysis of Financial Statements	Credit Hours	3 (3,0)

Course Code	BA5132	Prerequisite(s)	BA5401

A code has been assigned to each of the respective course for identification.

This is the course that a student is required to pass before taking this course.

Course Description

This course includes detailed analysis of Financial Statements of Manufacturing and Services Sector. Additional topics include cash flow statement, and statement of owner's equity; accounting principles; financial analysis and reporting process. Further, the course includes ratio analysis, trend analysis, and horizontal and vertical analysis, operating and financial leverage and their impact on a firm's performance, efficient market hypothesis, the capital asset pricing model (CAPM), inventory management process, FIFO/LIFO methods of costing calculate depreciation by applying different methods, and bond and stock valuation techniques.

This contains the topics that would be covered in the course.

Equivalent Course(s)	BA449, BA549

These courses are considered similar, and earn equal credit hours to the given course and can be taken by the student, with approval from the respective Program Manager.