Incepting New Dimensions...

BE (Mechatronics Engineering)

Endorsed by Pakistan Engineering Council (PEC)

Mechatronics Philosophy

Mechatronics is a **multidisciplinary** field of engineering; it refers to the efficient and effective integration of mechanical and electronic systems.

A mechatronics engineer unites the principles of mechanics, electronics, and computing to generate a **simpler, more economical, reliable and versatile** system.

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25% tuition fee Scholarships for 2013-2014 Intake

**Last Date to Apply:** June 15, 2013

**Online Admission Test:** June 20 – 26, 2013

**Admission start from:** April 29, 2013
Mechatronics at SZABIST

This program in Mechatronics provides a structured hands-on approach to understand microcomputer and control technology, coupled with engineering design integration applied to products. For this purpose, the department offers a program that includes various engineering science courses from the relevant fields in addition to a strong foundation in basic sciences and mathematics.

Furthermore, state-of-the-art scientific and technological research laboratories with campus licensing of a wide range of commercial developmental software provides an environment unrivaled by majority of reputed universities in Pakistan.

Program Objectives

The objectives of the program are to provide a broad and basic education in multiple disciplines comprised of Mechanical, Electronics, and Computer Engineering, and to ensure that all students in the program are exposed to a wide spectrum of engineering knowledge and practice.

The goal is to educate and train engineers who are proficient in the state-of-the-art as well as emerging technologies in all key areas of the discipline. The students will acquire proficiency in engineering design and in the use of computational tools for solving engineering problems. An important objective of the program is to offer a curriculum that evolves to keep pace with the rapid growth of technology in various areas of Mechanical and Electronics engineering.

Employment Opportunities

Graduates with a Mechatronics degree can take up careers in a wide spectrum of industries including:

- Robotics
- Aerospace
- Chemical
- Defense
- Automotive and Manufacturing
- Health, Medical and many more

As well as in businesses that requires extensive computer support, such as banking and commerce.

Contributions can be made to these industries in a variety of roles including design engineer, software engineer, project planner, product designer and project manager.
BE (Mechatronics Engineering) Program

SZABIST offers a four year (eight semesters) BE (Mechatronics). The BE Program is essentially a day program and consists of 45 courses (five or six courses per semester) with a total of 140 credit hours, internship and passing the comprehensive examination. The maximum time limit to complete the BE degree is seven years.

Scholarships

SZABIST will provide a scholarship of Rs: 19,350/$ 450 (foreign nationals) per semester (i.e. 25% of Tuition fees) to each admitted student registered for the year 2013-2014 for full load. Additionally, scholarship upto 100% of tuition fee are available to needy and meritorious continuing students.

Admission Requirements

- The candidate must have completed intermediate (Pre Engineering)/A levels or equivalent with a combination of (Mathematics, Physics, Chemistry/Computer Studies) with minimum 60% marks (those waiting for result can also apply).
- Candidates with DAE (Mechanical or Electronics) having at least 60% aggregate marks from an institute recognized by the Government.
- Minimum 50% aggregate marks each in matriculation and in Intermediate/equivalent exams.
- Please note that no deviation in this regard is allowed.

Fees:

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<tr>
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<th>For Pakistani Nationals</th>
<th>Foreign Nationals</th>
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<tbody>
<tr>
<td>Admission Fees:</td>
<td>Rs. 15000</td>
<td>$500</td>
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<tr>
<td>Security Deposit (refundable):</td>
<td>Rs. 5000</td>
<td>$165</td>
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<tr>
<td>Student Activity Charges:</td>
<td>Rs. 500</td>
<td>$15</td>
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<tr>
<td>Tuition Fees per Course:</td>
<td>Rs. 12900 (after scholarship of 25% Rs. 9675)</td>
<td>$300 (after scholarship of 25% $ 225)</td>
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Note: SZABIST reserves the rights to revise the fee/withdrawal of scholarship without any prior notice.
*3 Credit Hour fee.

Other Programs at SZABIST

SZABIST also offers the following programs; BBA, BS (Computing), BS (Media Sciences), BS (Social Sciences), BS (Biosciences), MBA, (MBA Banking & Finance), MPM, PGD in T.V Production/Advertisement, Masters in T.V Production/Advertisement, MS (Media Studies), MS/PhD (Management Sciences, Computing and Social Sciences) and the University of London International Program of LLB & the BA (Hons) Business Studies (in affiliation with University of Wales at Newport, UK). Separate brochures of these programs are available at the Admission Office.

Last Date to Apply: June 15, 2013

Online Admission Test: June 20 – 26, 2013

Interviews: July 02 – 08, 2013

Classes commence: August 12, 2013

APPLY ONLINE:
Log on to: [http://admissions.szabist.edu.pk](http://admissions.szabist.edu.pk).

For Further Information Please contact:
E-mail: admissions@szabist.edu.pk, mechatronics@szabist.edu.pk. www.szabist.edu.pk
In order to ensure that this academic program at SZABIST conforms to standards of internationally recognized universities, the curriculum has been designed with the guidance of academics and professionals specializing in Mechatronics Engineering.

### FIRST YEAR

**FALL SEMESTER**
- ME1101 Communication & Presentation Skills
- ME1102 Electric Circuits
- ME1103 Engineering Drawing & Graphics
- ME1104 Engineering Mathematics-I: Calculus & Analytical Geometry
- ME1105 Introduction to Computer System & IT
- ME1203 Engineering Physics

**SPRING SEMESTER**
- ME1201 Electronic Devices & Circuits
- ME1202 Engineering Mathematics-II: Linear Algebra & Ordinary Differential Equations (ODEs)
- ME1106 Islamic Studies
- ME1204 Engineering Statics
- ME1205 Computer Programming
- ME1206 Workshop Practice

### SECOND YEAR

**FALL SEMESTER**
- ME2301 Data Structures & Object Oriented Programming
- ME2302 Digital Logic Design
- ME2303 Engineering Dynamics
- ME2304 Engineering Mathematics-III: 3D Geometry & Vector Calculus
- ME2305 Network Analysis
- ME2306 Pakistan Studies

**SPRING SEMESTER**
- ME2401 Electronics Circuit Design
- ME2402 Electro-Mechanical Systems
- ME2403 Engineering Mathematics-IV: Transformation Techniques
- ME2404 Mechanics of Materials
- ME2405 Thermodynamics

### THIRD YEAR

**FALL SEMESTER**
- ME3501 Engineering Mathematics-V: Numerical Methods
- ME3502 Fluid Mechanics
- ME3503 Materials and Manufacturing Processes
- ME3504 Microcontroller Based Systems
- ME3505 Sensors, Actuators and Instrumentation
- ME3506 Theory of Machines

**SPRING SEMESTER**
- ME3601 CAD/CAM
- ME3602 Control Systems
- ME3603 Engineering Mathematics-VI: Probability & Statistics
- ME3604 Machine Design
- ME3605 Power Electronics
- ME3606 Technical Writing Skills

### FOURTH YEAR

**FALL SEMESTER**
- MExxxx Elective-I (Engineering)
- ME4702 Engineering Economics & Project Management
- ME4703 Heat Transfer
- ME4704 Mechanical Vibrations
- ME4705 Mechatronics System Design
- ME4709 Final Design Project*

*To be continued and graded at the conclusion of 8th Semester.

**SPRING SEMESTER**
- ME4801 Industrial Automation
- MExxxx Elective-II (Engineering)
- MExxxx Elective-III (Management Sciences)
- ME4802 Robotics

### ELECTIVES

**Engineering Electives**
1. Digital Signal Processing
2. Simulation and Modeling
3. Digital Image Processing
4. Introduction to Bio Medical Engineering
5. Artificial Intelligence and Computer Vision

**Management Sciences Electives**
1. Engineering Management
2. Entrepreneurship
3. Research Methodology
4. Leadership and Motivation Techniques
5. Organizational Behavior

All courses may not be necessarily being offered every year. Alternative courses may be substituted when needed.