I've never heard of Mechatronics. What is Mechatronics Engineering?

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

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

**Scope**

- An **industrial robot** is a prime example of a mechatronics system; it includes aspects of electronics, mechanics, and computing to do its day-to-day jobs.
- **Examples of mechatronics systems** include aircraft, motor vehicles, automated manufacturing plants, medical and surgical devices and systems, robots of all types, many toys, artificial organs and many others.
- Mechatronics engineers **are therefore involved** in almost every possible industry at levels from applications development to manufacturing to advanced research.

**Is Mechatronics Engineering an accredited program?**

Yes, this program is endorsed from Pakistan Engineering Council (PEC).

**What are some potential career opportunities once I graduate?**

Mechatronics Engineers design and develop automation solutions for manufacturing, automotive, aerospace, health & medical, and automation companies. With their broad engineering knowledge base, they tend to hold technical design and decision-making positions, often overseeing or playing a central role in engineering design teams. Furthermore, nowadays the demand for highly qualified professionals possessing multidisciplinary skills, combined with knowledge of mechanical, computer and electronic systems, continues to rise. In summary, a person with a degree in this discipline can contribute greatly as a software engineer, project manager, project planner, project designer, or design engineer.

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

- Robotics,
- Aerospace,
- Defense,
- Automotive,
- Manufacturing,
- Industrial management,
- Chemical,
- Communications,
- Health and 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.
Is financial aid available?
SZABIST will provide a scholarship of Rs. 19,350 per semester (i.e. 25% of tuition fee) to each admitted student registered for full load. Additionally, scholarships amounting 100% of tuition fee are available to needy and meritorious continuing students.

What is the curriculum like?
The first year of study includes several courses common with other fields of engineering, such as Mathematics, Computer Science and Physics, in addition foundation course from both Mechanical and Electronics Engineering are taught. The remainder period specifically addresses Mechatronics Devices and Systems.
Graduates of the program are expected to understand both the theory and practice of:

1. Computer hardware and software, applications software, and computer-aided design.
2. Electrical circuit analysis; industrial electronics including digital and analog systems, AC power, motors, and PC/machine interfacing.
3. Mechanics of rigid bodies, fluids, deformable bodies, and mechanisms.
4. Programmable logic controllers and industrial computers.
5. Developing structured programs for machine control using industry standard languages.
6. Designing and implementing electromechanical systems, including considerations of safety and security.
7. Utilizing closed-loop electronic control system hardware and creating software for the control of automated mechanical systems.
8. Application of discrete math, fundamentals of calculus and differential equations and/or Laplace transforms, and probability and statistics in support of electromechanical systems.
9. The ability to apply project management techniques to electromechanical systems.
See the curriculum link below to view the courses in the program.
http://khi.szabist.edu.pk/be-mechatronics.html

After completing program what options I have for higher studies abroad, like Masters/PhD?
After completing your degree, you will have the choice to do MS, PhD in area of your interest, to name a few, imaging (condition monitoring, medical imaging, video analytics etc) modeling and simulation, instrumentation and control, manufacturing and robotics. For your higher education you can choose any of the internationally recognized universities as curriculum for BE (Mechatronics) has been designed with the guidance of academics and professionals specializing in mechatronics.

How long does it take to complete the program?
It will typically take 4 years (8 semesters) to complete the Mechatronics Engineering program - the same as the other Bachelor programs. BE Mechatronics Engineering program is essentially
a day program and consists of 45 courses (five or six courses per semester) with a total of 140 credit hours. The maximum time limit to complete the BE degree is seven years.

**How do I apply for the program?**

You can apply for BE (Mechatronics) program online at following link:  

Alternatively, you can visit the SZABIST admission office, once there; you can fill out your application online there. Contact details for SZABIST admission office are as follows:

Address: F-108 Clifton, Karachi, Pakistan  
Tel: 021 - 35821537-42  
Fax: 021 - 35821537  
Email: admissions@szabist.edu.pk

For further details, please visit the following link:  
[http://admissions.szabist.edu.pk/FAQ.aspx#SubmitDocs](http://admissions.szabist.edu.pk/FAQ.aspx#SubmitDocs)

**When is the last date to apply?**

Last date to apply for Mechatronics program is **Saturday 15th June, 2013**.

**When the admission test will be held?**

The admission test will be held at SZABIST, Karachi campus between **Thursday 20th June** and **Tuesday, 26th June, 2013**.

**How the admission test will be conducted?**

The admission test will be online i.e. computer based.

**What will be the format of admission test?**

The Mechatronics admission test will consists of five sections, namely, Mathematics, Physics, Chemistry, English and IQ/General Knowledge, based on multiple choice format. Duration of the test will be 90 Minutes.

**Is there any sample admission test available?**

Sample admission test is available online at SZABIST website on following link:  

**Is there any negative marking in admission test?**

No, there will be no negative marking in admission test.

**If I “pass” the admission test, am I automatically admitted to B.E. Mechatronics program?**

No. This test represents only one component of our admission process, just like with standard Bachelor admissions. The test will be followed by personal interview. Our admission committee
evaluates academic achievement in terms of secondary school performance, the admissions
test results, extracurricular achievements and the personal interview. After a thorough
evaluation of all the above mentioned information, the admission committee will make a
decision on admission.

When the personal interviews will be held?
The interviews are schedule to take place between Tuesday, 2\textsuperscript{nd} and Monday, 8\textsuperscript{th} July, 2013

When would the list of successful candidates be issued?
The list of successful candidates will be issued on Saturday, 13\textsuperscript{h} July, 2013.

When classes do begins?
Classes will begin from Monday, 12\textsuperscript{th} August, 2013.

What if I have more questions; who do I contact?
For any queries regarding Mechatronics program, please contact us by emailing at mechatronics@szabist.edu.pk.

For admission related issues, please contact us at admissions@szabist.edu.pk.