



Masters & PhD in Engineering

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Sukkur IBA Univeristy

Description

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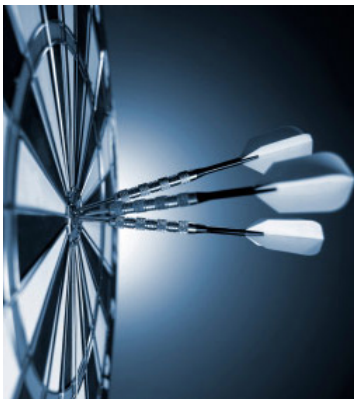
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Sukkur IBA University Vision & Mission

Vision

“To become a world-class university in the fields of Management Sciences, Information Technology, Engineering, Mathematics and Education.”



Mission

The mission of Sukkur IBA University is to contribute and serve community by imparting knowledge through innovative teaching and applied research at the global levels of excellence. We aim to establish and sustain a competitive meritorious environment by strengthening faculty and using state of the art technology to produce graduates with analytical & creative thinking, leadership skills and entrepreneurial spirit, who possess global outlook and are conscious of ethical values.

Department of Electrical Engineering

Master of Engineering program at the department of Electrical Engineering was launched from the spring 2017 semester. The primary objective of this program is to establish a seat of higher education imparting quality education in the diverse fields of electrical engineering and renewable energy systems. With state of the art lab facilities, campus infrastructure and highly qualified faculty Sukkur IBA university is ideally suited for fresh students and mid-career professionals looking to pursue higher education.

The department of Electrical Engineering boasts unparalleled and state of the art labs and highly qualified faculty. The geographical location of the campus is another salient feature of the program as this provides an ideal platform to the community of Sukkur and surrounding areas including upper Sindh and southern Punjab. Sukkur IBA University is constantly striving to establish international linkages. Sukkur IBA University has entered into an MOU with North China Electric Power University (NCEPU) and Sapienza University Italy.

Electrical Engineering's Mission

The mission of Department of Electrical Engineering is to produce quality engineers through academic excellence and meritorious platform by infusing ethical values, innovative and leadership qualities to address societal needs and imparting engineering education along with applied research, based on sound technical knowledge enabling graduates to contribute in commercial and entrepreneurial ventures at global level.

HoD's Message

Electrical Engineering is one of the fastest growing emerging fields of modern Engineering disciplines. Sukkur IBA offers a unique Bachelor's programme to provide industry the required Engineers possessing modern practical skills needed to bridge gap between academia and industry and produce Graduates with the state of art technologies at par with the highest-class technical and academic standards. So if you feel, you can pursue a challenging career in a World-class quality institute to learn practical engineering skills, our doors are open for you and you are more than welcome to join a unique Electrical engineering programme in a world-class quality institute.

Dr. Faheem A. Chachar

ME Program Goals

The primary focus of this program is to instill critical scientific skills, understanding of modern scientific platforms and ability to analyze contemporary research problems and propose solutions.

The specific objective of this program is to groom competent and employable students

1. Having ability to formulate scientific problems and solve them through first principles.
2. Having requisite skills for analysis and synthesis of emerging scientific problems.
3. Having ability design and develop complex systems through contemporary scientific software tools and hardware platforms.
4. Having ability to present their research findings to peers in written and oral form.
5. Having innate ability to engage in life-long learning.

Master in Electrical Engineering

The prime purpose of Master of Electrical Engineering is to produce students who possess a wide set of mathematical faculties and are trained to solve complex engineering problems through review of existing scientific literature and application of first principles. This program also aims to produce high caliber work-force which has hands on experience and competence to design solutions using state of the art hardware/software platforms. This program offers a wide spectrum of specializations ranging from communication & signal systems, electronics systems design, power electronics, electric machines design and power systems.



Structure of Program

Core Courses	03	09 Credit Hours
Elective Courses	04	12 Credit Hours
University Core Courses	02	06 Credit Hours
Mathematics Course	01	03 Credit Hours
Thesis	--	09 Credit Hours
Total		39 Credit Hours

Complete course schema of program is available on our website.

Specialization

- Power Systems
- Electronics Systems Design
- Communication & Signal Processing
- Robotics and Intelligent Systems

Facilities and Infrastructure at Sukkur IBA University

Career Development Center

Video Conferencing

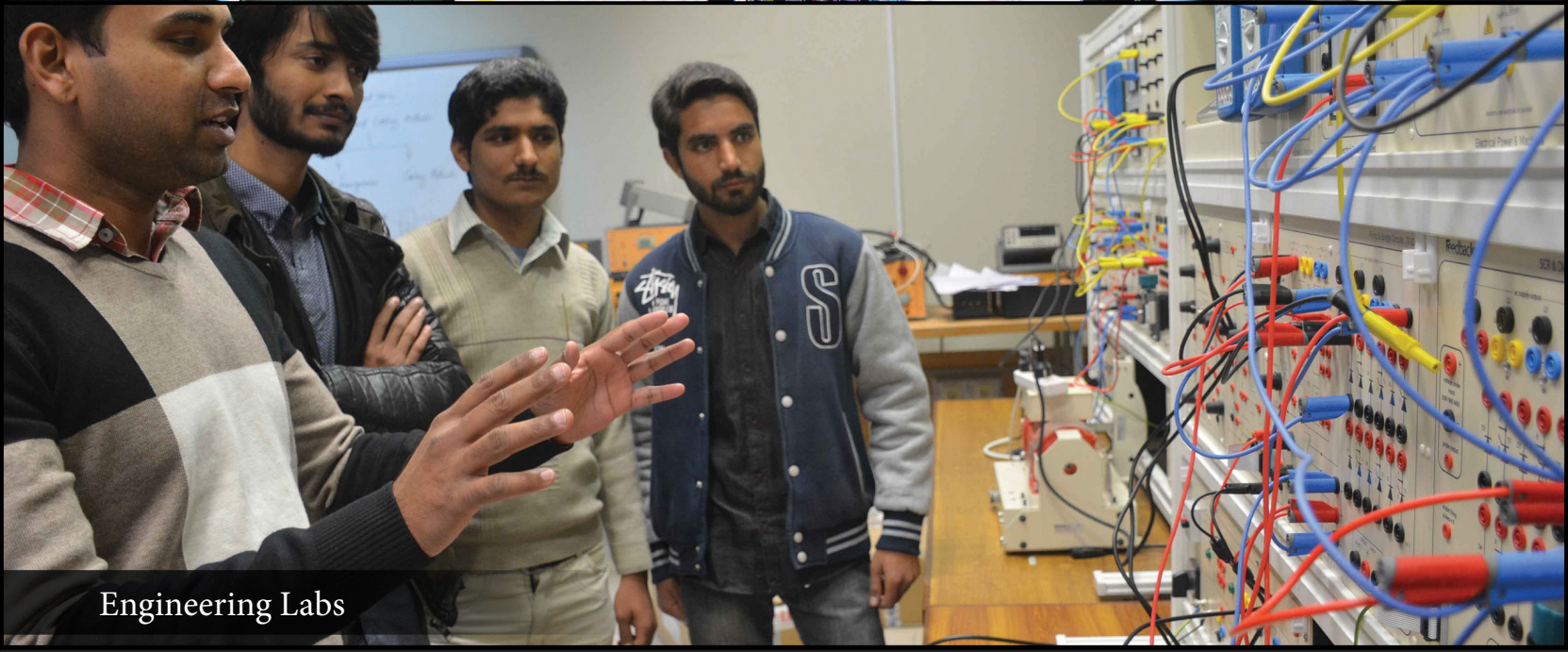
State-of-the-art Central Library



Computer Science/IT Labs



Bloomberg Financial Trading Lab



Engineering Labs



High Speed Internet Connectivity
and Smart University Initiative

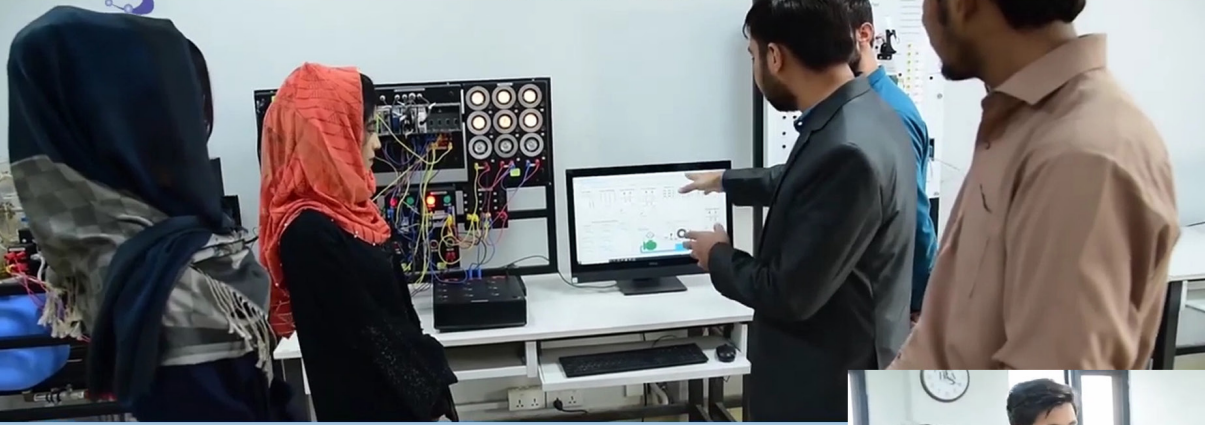
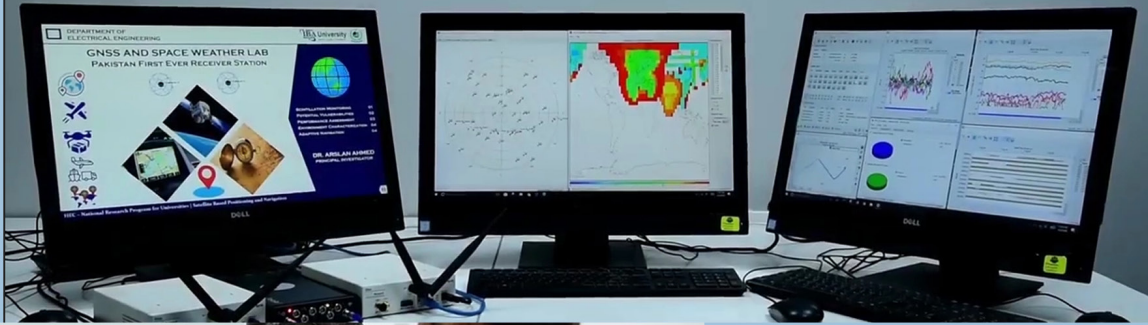


Uninterrupted Power Supply



Hostel Facility (Male/Female)

Research Labs



Master in Renewable Energy

The program ME in Renewable Energy is aimed at training technically sound workforce in the diverse aspects of renewable energy ranging from design and implementation to assessment of economic and ecological impact of different technologies. This program also covers several facets of utility network such as power generation, transmission to more contemporary topics like smart grids, hybrid power systems.

Structure of Program

Core Courses	02	06 Credit Hours
Elective Courses	03	09 Credit Hours
Additional Courses	02	06 Credit Hours
Mathematics Course	01	03 Credit Hours
Course as Recommended by Supervisor	02	06 Credit Hours
Thesis	--	09 Credit Hours
Total		39 Credit Hours

Elegibility Criteria

ME-Renewable Energy Systems and ME- Electrical Engineering	<ul style="list-style-type: none">• Candidate must be having 16 years of education in relevant field with atleast first division or 2.2 CGPA, from any HEC recognized University / Institution.• Candidate should have either cleared GAT-General with atleast 50% marks or appear SIBAU Graduate Test - General to secure admission.
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PhD in Electrical Engineering

The purpose of PhD in Electrical Engineering is to provide perspective candidates a conducive environment for research. This includes access to state of the art resources and capabilities and presence of highly qualified faculty. With over 20 PhD scholars and many more pursuing their degrees abroad at the top universities of the world, the department has a broad base as well as depth. This program offers a wide spectrum of specializations ranging from robotics , artificial intelligence, communication & signal systems, electronics systems design, automation & control, power electronics, electrical machine design and power systems, micro & smart grids, clean and renewable energy to nano-materials analysis, design and fabrication for various applications.

Structure of Program

Core Courses	03	09 Credit Hours
Elective Courses	03	09 Credit Hours
Interdisciplinary Electives	02	06 Credit Hours
Thesis	--	30 Credit Hours
Total		54 Credit Hours

Complete list of core and elective courses is available on our website.

Program Schema

Semester-I	Pre- req	CHR
Core I	--	3
Core II	--	3
Elective Course-I	--	3
IDE-I	--	3
Semester-II	Pre- req	CHR
Core III	--	3
Elective Course-II	--	3
Elective Course-III	--	3
IDE-II	--	3
Semester III-VI	--	CHR
Qualifying Exam		
Doctoral - Thesis	--	30

Specialization:

Electrical Power
Communication Systems
Signal Processing
Embedded Systems Design
Nano Engineering
Robotics and Intelligent Systems

Elegibility Criteria

1. Academic Eligibility
2. Performance in NTS/STS Subject Test
3. Interview Performance

Academic Eligibility:

A. MS in (Electrical, Electronics, Telecommunication, Computer, Environment, Mechatronics, Renewable Energy Engineering)

B. The students must possess an MS/ME degree with a minimum of 70% or CGPA 3.0 (out of 4.0 in semester system) or first division in annual system from an HEC recognized university/institute.

*admission is subject to suitable deficiency courses.

Performance in NTS/STS Subject Test

GRE International / NTS / STS (GAT subject test) as per HEC passing criteria

- GRE (international) subject test with minimum 60% percentile score or
- In case of GAT subject test with minimum of 60% marks.
- Brief research proposal demonstrating comprehension of research problem through literature review.

Interview Performance:

Only shortlisted candidates will be invited for interview.

Requirements for Completion of the Degree

For completion of the ME degree, the candidates must fulfill the following requirements

Candidate must have completed course work of 24 Credit Hours

Candidates must have passed Qualifying Exam.

Acceptance/publication of at least one research paper in an HEC approved “X” category journal is a requirement for the award of Ph.D. degree.

Candidate must successfully defend their thesis after due vetting and approval of internal and external examiners as per criteria set by Sukkur IBA University under the HEC guidelines.

Salient Features of the program

- State of the research facilities
- RA-ships available for top performing students.
- PM tuition fees reimbursement (if available)
- Ideal campus environment.

Contact: 071- 5644059

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Web: ee.iba-suk.edu.pk

Research Opportunities

Research Labs	Lab In-Charge	Email address	Lab Description
GNSS and Space Weather Research Lab	Dr. Madad Ali Shah, Professor	madad@iba-suk.edu.pk	GNSS and Space Research Laboratory already exist in the Department of Electrical Engineering, Sukkur IBA University. Currently, we have GNSS Receiver, one antenna, and one PC to conduct satellite communication experiments. It also contains a Laptop for dynamic experiments.
High-frequency design and Microwave Processing Lab	Dr. Yameen Sandhu, Associate Professor	yameen@iba-suk.edu.pk	Applied research in the following areas will be conducted. 1. High-frequency components design and signal processing. 2. Microwave Characterization of materials. 3. Microwave Sensors. 4. Microwave Material Processing.
Advanced Micro Mechatronics and Energy Lab (AMME Lab)	Dr. Afaq Manzoor, Assistant Professor	afaque.manzoor@iba-suk.edu.pk	AMME lab aims to perform cutting-edge research in the following areas. 1. Bio-inspired Soft Robotics 2. fabrication of Wearable Flexible Sensors 3. Flexible Energy Storage Solutions
Wireless Communication Research Lab (WCRL)	Dr. Aziz Altaf Khuwaja, Assistant Professor	aziz.khuwaja@iba-suk.edu.pk	This lab will cater to the needs of faculty and postgraduate students for conducting applied research in the domain of wireless communication and signal processing. This research lab will also complement other researchers who intend to work in cyber security, artificial intelligence, and data analytics.

Center of Research for Energy & Smart Grid (CRESG)	Dr. Faheem Akhtar, Associate Professor	faheem.akhtar@iba-suk.edu.pk	Center of Research for Energy & Smart Grid (CRESG) is established in collaboration with Tier Energy Ltd. The center comprises a state of art Power Hardware-in-the-Loop Laboratory (PHIL) setup from National Instrument and OPAL-RT for accelerating innovative research in the domain of Microgrid, Power Converters, HVDC, Machine drives and Control in Power Electronics. Currently, Dr. Faheem A. Chachar is leading a team of three Assistant Professors, one industry expert, two PhDs and four Masters students working for this center.
BIO-ENERGY	Dr. Abdul Raheem, Assistant Professor	abdul.raheem@iba-suk.edu.pk	Growing demand for oil, geopolitical concerns, and social and environmental pressures are pushing the transition from imported petroleum to renewable liquid fuels, with biofuels planned for a major portion of the nation's future energy. Meeting future biofuel demand will require a trained workforce able to provide the engineering and scientific research needed to operate existing biorefineries and the education of future generations of scientists.
Biosensing and Spectroscopy	Dr. Abdul Baseer, Assistant Professor	abdul.baseer@iba-suk.edu.pk	The lab would focus on collecting different signals/data using a variety of sensors/devices from human subjects. The collected signals would then be preprocessed using traditional and advanced digital signal processing techniques and laser spectroscopy assisted by machine learning models.
Optical Fiber Sensing Lab	Dr. Ghulam Abbas, Assistant Professor	ghulam.abbas@iba-suk.edu.pk	This lab aims to design and fabricate sophisticated optical fiber sensors for various science and engineering applications.





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