



Masters & PhD in Engineering

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“ Sukkur IBA University is not just an Educational Institute, it is a thought process, a phenomenon...
A Silent Revolution. ”

Prof. Nisar Ahmed Siddiqui
Vice Chancellor Sukkur IBA University

Sukkur IBA Univeristy Description

	Page
Department of Electrical Engineering.....	03
ME Program Goals	03
Master in Electrical Engineering	04
Master in Renewable Energy.....	05
Resource Opportunities.....	05
Facilities.....	06
Modes of Registration.....	07
Eligibility Criteria.....	08
Academic Eligibility.....	08
Our Faculty.....	09
Salient Features.....	12

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.

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.

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	--	06 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

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

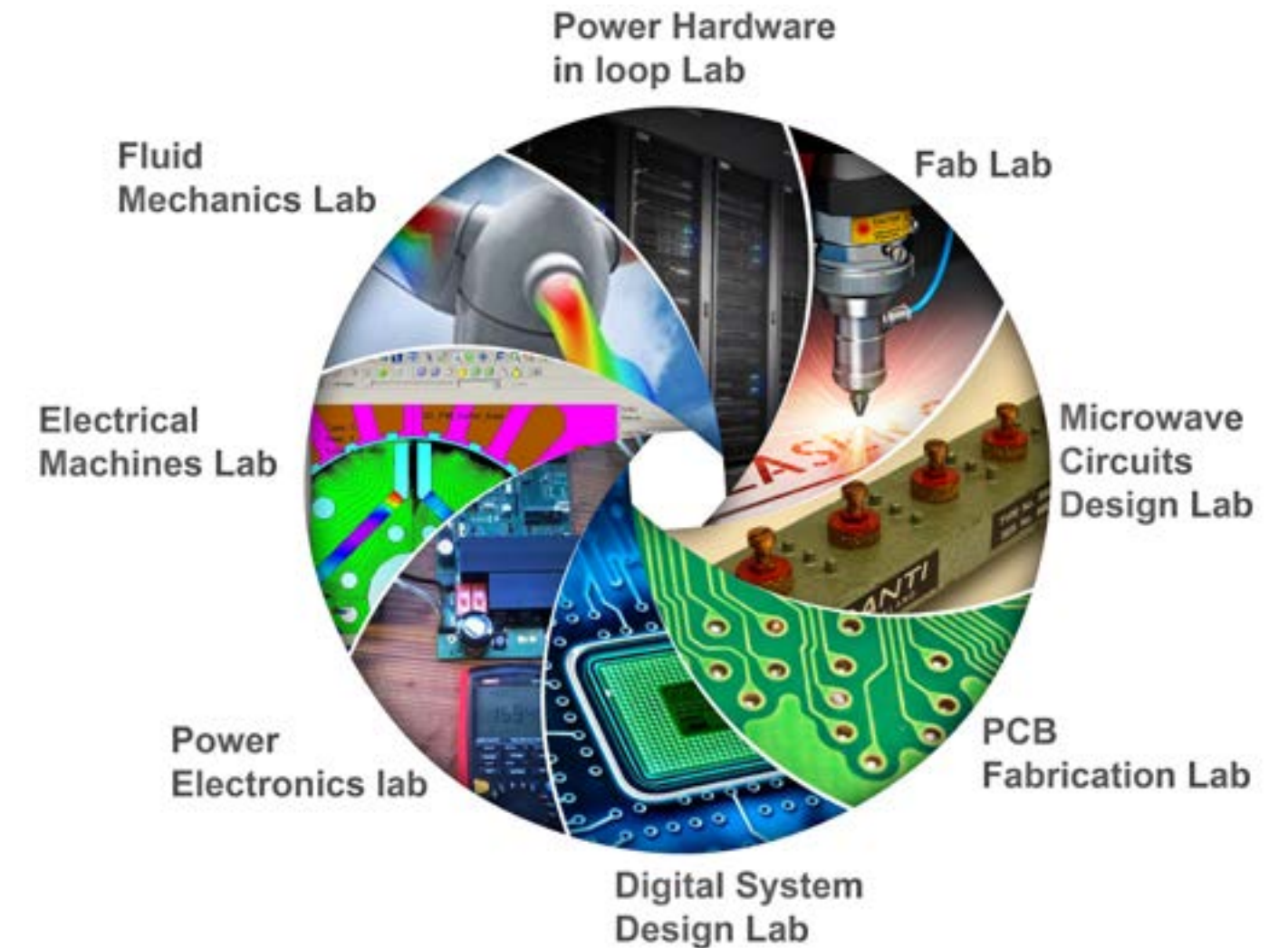
Core Courses	02	06 Credit Hours
Elective Courses	03	09 Credit Hours
Additional Courses	02	06 Credit Hours
Mathematics Course	01	03 Credit Hours
Course as Recommended by Supervisor	02	06 Credit Hours
Thesis	--	09 Credit Hours
Total		39 Credit Hours

Research Opportunities

Solar Energy	Energy Materials
Grid integration of Renewable Power Generation and Smart Grids	Power Electronics for Renewable Energy applications
Bio-Mass Systems	Energy Economics
Offshore Wind Farms	Distributed Energy Generation and Microgrids
Machine Design for Renewable Energy applications	High Voltage Direct Current (HVDC) Transmission
Electronics and Embedded System	Power Systems and Smart Grids
Biomedical Imaging	Electrical Machines and Drives
Image Processing	Power Electronics in Electric Vehicles
Wireless Communication	Control and Automation
Sensor Networks	Machine Vision
RF and Microwave Circuits	Nano Electronics
GPS Receiver Design	Advanced Robotics

Sukkur IBA University has signed MoU with North China Electric Power University (NCEPU), Sapienza University Italy. Under these initiatives the students have the opportunity to study a semester abroad.

Facilities



Modes of Registration

Full Time

In this mode of enrollment
Scholars can register in up to four courses per semester.
Classes will be scheduled throughout the week.
Opportunity to earn research assistantship.
Minimum Duration of completion 2 years, Maximum 4 years.



Part Time

This mode of enrollment is ideally suited for mid-careers professionals pursuing growth through further education. In this mode of enrollment

- Minimum Duration of completion 3 years, Maximum 4 years



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	06	02 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.

Our Faculty

Dr. Faheem Akhtar (Assistant Professor) Head of Electrical Engineering Department	Dr. Faheem Akhter Chachar is Head of Department and working as Assistant Professor in Electrical Engineering. He completed his PhD degree from University of Edinburgh, UK in Energy Systems. His major area of research was integration of offshore wind farms to onshore AC grid through VSC-HVDC technology.
Dr. Fareed Mangi (Associate Professor)	Dr. Fareed has more than 10 years of diverse teaching and research experience at various distinguished universities of Pakistan. His research interests include Industrial Energy Systems, Multifunctional Heat Exchangers/Chemical Reactors, Renewable Energy (Wind Energy and Solar Energy), Mixing Enhancement techniques, Chaotic Advection, Experiments in Fluids, Thermal Systems, Heat and mass transfer enhancement techniques.
Dr. Muhammad Asim (Associate Professor) Coordinator ME Program	Dr. Asim has more than 12 years of diverse teaching and research experience at various distinguished universities of Pakistan. His research interests include heterogeneous wireless networks, modulation schemes for future communication standards and optical wireless communication. Dr. Asim has established an advanced facility for design and fabrication of printed circuit boards at Sukkur IBA. More recently Dr. Asim is also part of the initiative to establish the first Fab. Academy in Pakistan in collaboration with Fab Foundation and Center of Bits and Atoms (MIT) Boston USA.
Dr. Muhammad Yameen (Associate Professor)	Dr. Yameen has Postdoc and PhD from University of Leeds UK. He has more than 07 years of teaching and research experience at national and international universities. He is associated with Sukkur IBA since 2009. His research interest include Microwave material processing, Microwave control, sensing and spectroscopy techniques, Microwave integrated devices.
Dr. Abdul Aziz (Assistant Professor)	Dr. Abdul Aziz received PhD from Hanyang University South Korea. He has more than 10 years of combined research, teaching and field work experience. He is associated with Sukkur IBA University since 2012. His research interests include wireless sensor networks, wireless adhoc networks, delay tolerant networks and cellular networks.
Dr. Sharjeel Afridi (Associate Professor)	Dr. Sharjeel Afridi has received his Ph.D. degree from University of Leeds, UK in 2018. He has more than 10 years of teaching experience in different Universities and more than one year in the field of cellular communication. His area of interests are Microwave ceramic filters for cellular system, Microwave material processing and antenna design.

Dr. Saeed Khan (Associate Professor)	Dr. Abro has Ph.D. from University of Electronic Science and Technology of China in 2017, M.E in Electronics Systems Engineering under joint study program of Erasmus Mundus from University of Zagreb Croatia and Mehran University of Engineering of Technology, Jamshoro and B.E in Electronics from Mehran University of Engineering of Technology. Dr. Saeed has almost 10 years of diverse teaching, industrial and research experience at various distinguished universities, government and private organizations of Pakistan. His research interests include Electronic Thin Films and Integrated Devices, Flexible electronic devices and Sensor, Nanogenerators, Physical Electronics, Materials Engineering and Carbon Nanotubes.
Dr. Sabir Shah (Assistant Professor)	Dr. Sabir has received his Bachelor of Engineering degree in Electrical Engineering (Power) from Mehran University of Engineering and Technology Jamshoro, Sindh, Pakistan, in 2009, and his Ph.D. in Electronic Systems Engineering from Hanyang University, South Korea. His research interests include Design of Electrical Machines, Power Quality and Power Electronics.
Dr. Safeer Hyder (Assistant Professor)	Dr. Laghari completed his PhD from University of Leeds UK, in 2017. He has more than 7 years of teaching and research experience in different domains including Power aware wireless communication technologies, Embedded Systems Engineering, Biomedical Engineering.
Dr. Gulsher Ali (Assistant Professor)	Dr. Gulsher Ali completed his PhD degree from Eastern Mediterranean University, north Cyprus, Turkey, in 2018. His research interests include inverse problems in image processing, sparse representation and dictionary learning, supervised learning, image de-noising, image compression, image super-resolution, image inpainting. He has more than seven years of teaching and research experience. He has published in reputable international journals.

Dr. Abdul Sattar (Assistant Professor)	Dr. Sattar did his PhD from Dongguk University South Korea. Dr. Chan has more than 13 years of teaching and research experience at university level. His research interests include Quantum Computing, Neuromorphic Computing, Memristors, Nanotechnology, Graphene and other 2D materials, Photodiodes and Photodetectors. Dr. Sattar has published his research findings in several high impact factor international research journals and conferences.
Dr. Arsalan Ahmed (Assistant Professor)	Dr. Arslan Ahmed completed his Ph.D. degree from Newcastle University, UK in 2015 and joined Sukkur IBA in 2016. His research interests include GPS software receiver design , raw signal processing, adaptive software based GPS receivers, Ionospheric scintillation effects and modelling at European High latitude, Position Estimation algorithms and Investigation of Space Weather Effects on Satellite Communication and Navigation. In addition to this specialized field activities, Dr. Arslan is also working on autonomous unmanned ground vehicles (UGV) where his main interest is to work on the efficient UGV designs to make it fully autonomous with obstacle avoidance capabilities.
Dr. Ahmed Ali Shah Assistant Professor	Ahmed Ali Shah has around 10 years of diverse experience in academia, industry, and research. In 2012, he was awarded Higher Education Commission's prestigious scholarship to pursue PhD studies at Hanyang University, South Korea. Over the past few years, Dr. Shah has participated in number of industrial projects and received various technical trainings and certifications. He has hands on experience in soft fabrication of photonics based sensing and imaging nano platforms, specifically his focus was to improve the limit of detection values (LODs), that in turn enhances sensitivity and minimizes safety risks. His areas of interest include, surface enhanced Raman scattering (SERS), biosensors, electric field responsive nanostructures, nano-photonics, EEG signal processing, and bio-imaging.
Dr. Abdul Baseer Assistant Professor	Dr. Abdul Baseer Buriro has received MPhil and PhD in electrical and electronic engineering from the University of Manchester, UK and University of Canterbury, New Zealand respectively. Since August 2009, Dr Abdul Baseer has been associated with Sukkur IBA University after 5+ years of being in telecommunication industry. His research interests include an electroencephalogram (EEG) signal processing, connectivity analysis, feature extraction techniques, and practicing feature/ dimensionality reduction and machine learning techniques at classifying (detecting/ predicting) rarely occurring events (e.g., microsleep). He has published his research in well reputed transaction and conferences.

<p>Dr. Suresh Kumar Assistant Professor</p>	<p>Dr. Suresh Kumar completed his PhD from Aberystwyth University, UK in 2018. During his PhD, he developed a play-behaviour model for robots inspired from developmental psychology. Dr. Suresh has 8 years of teaching and research experience. His research interests include developmental robotics, mobile robots & autonomous navigation and IoT & smart systems.</p>
<p>Dr Muhammad Waqas Assistant Professor</p>	<p>Dr. Muhammad Waqas obtained his PhD from University of Electronic Science and Technology of China (UESTC) in 2019; His research involves the development of composite separators for high-temperature lithium-ion batteries, synthesis of advanced energy materials for lithium and sodium batteries, flexible lithium batteries, and wearable and self-powered electronic devices. Dr. Waqas has more than 7 years of teaching and research experience at university level. He has been with Sukkur IBA University for the past 6 years. Dr. Waqas has published his research in several high impact factor international research journals and conferences.</p>

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.

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