



Sukkur IBA University

MS & PhD in Computer Science

www.iba-suk.edu.pk

“

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

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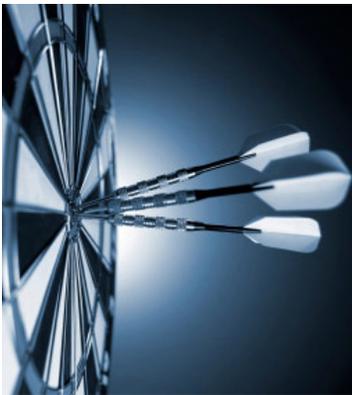
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Sukkur IBA University Vision & Mission

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.

Sukkur IBA University Introduction

Beginning of a New Era – Spreading the Light of Education

Since its establishment, Sukkur IBA University has been successfully transforming the lives of people and uplifting their careers by offering quality education. Sukkur IBA University welcomes people from diverse backgrounds, majority of them have dreams in their minds but their realization is blur. Sukkur IBA University not only helps them realize their dreams but changes their lives by educating them and making them responsible citizens of Pakistan.

Sukkur IBA University does not believe in teaching through conventional means. It rather focuses on teaching through modern teaching methodology on market-based curriculum. Students are engaged through classroom lectures, video conferences, presentations, audio video learning aids, group discussions, role play exercises, practical projects, research work and other curricular and extracurricular activities. The purpose is to build capacity of students from all aspects by using all modern tools and techniques. This aids in increasing student analytical skills, decision making power and self-confidence, risk taking thinking out of box, determination and self-awareness. These activities also create a strong link between theory from their books and practical, which they have to face after initiating their career.

How Sukkur IBA University is Different?

- Quality Education at affordable Cost – (what Sukkur IBA University offers and what it charges is far less than other Institutions of similar caliber).
- Assurance of Learning – (Sukkur IBA University ensures learning through linking programs with institute mission and mapping curriculum to achieve desired academic goals).
- Linkages with reputable national and international institutions – for adopting best national and international academic practices to improve quality of education Sukkur IBA University has strong linkages with institutions of global caliber.
- Raising standard of education through unique foundation semester – to support students from poor academic and financial background to remove their academic deficiencies and prepare them to face challenges of higher education.
- Focus on Faculty Development – (to invest a lot on faculty to build their capacity so that they can teach better and prepare students for challenges of professional life).



Facilities and Infrastructure at Sukkur IBA University

Career Development Center

Video Conferencing

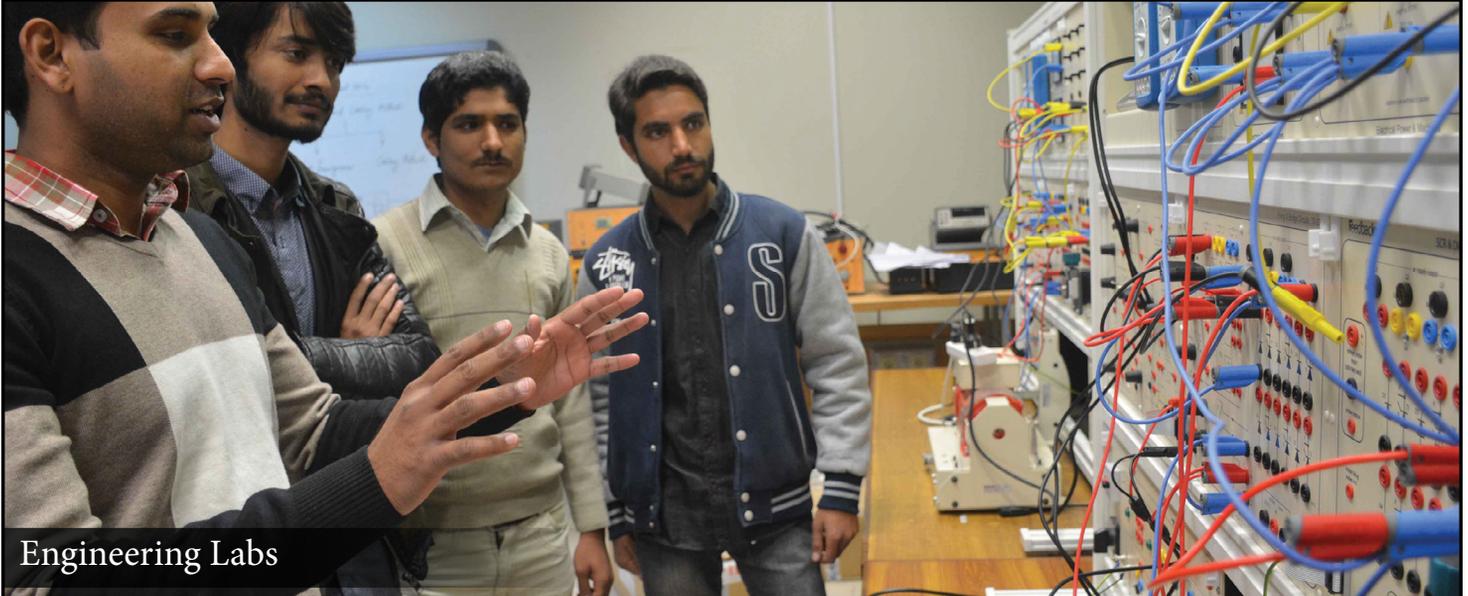
State-of-the-art Central Library



Computer Science/IT Labs



Bloomberg Financial Trading Lab



Engineering Labs



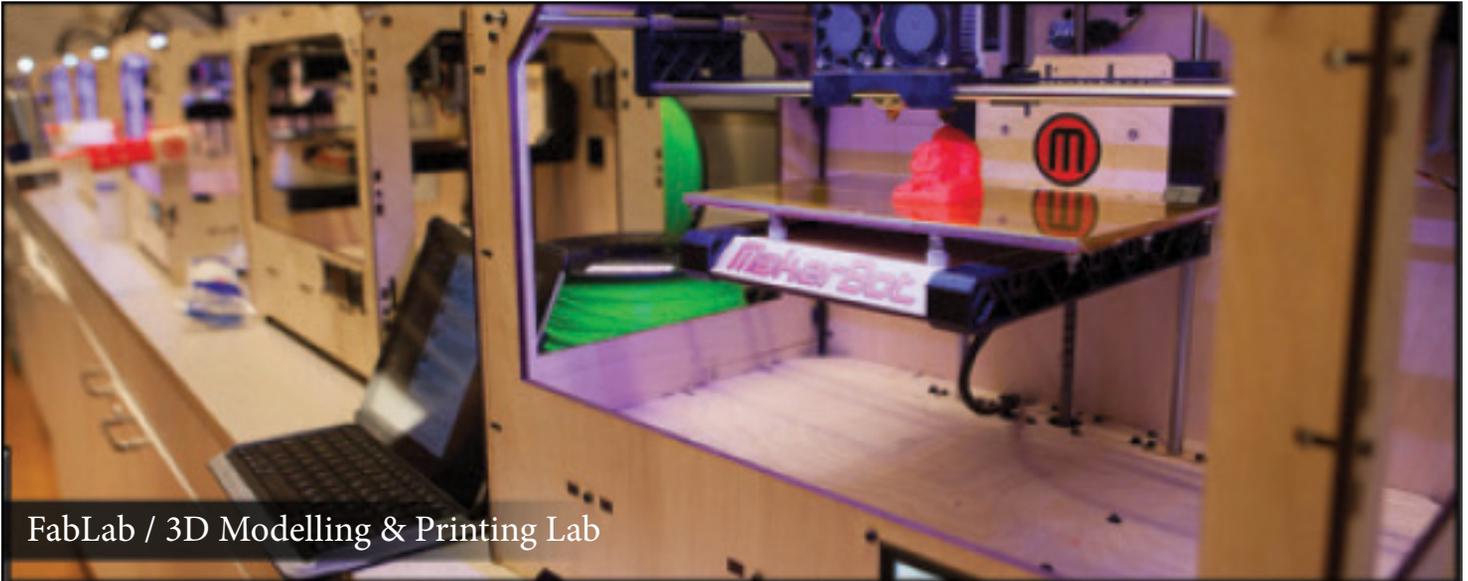
High Speed Internet Connectivity
and Smart University Initiative



Uninterrupted Power Supply



Hostel Facility (Male/Female)



FabLab / 3D Modelling & Printing Lab



English Language Lab



Behavioral Lab



Facilities and Infrastructure at Sukkur IBA University

Career Development Center
Center for Research in Artificial Intelligence and Blockchain (CRAIB)
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
FabLab / 3D Modelling & Printing Lab
English Language Lab
Behavioral Lab
Hostel Accommodation

Department of Computer Science

The Department of Computer Science has been established to spread computing and information sciences education with unique philosophy of Sukkur IBA University. The Department is highly integrated with other disciplines that are significant to institutional, national and international growth, including but not limited to statistics, economics, finance, business administration, education and engineering. In today's information age, applications of computing and information sciences have emerged pervasively in all the walks of society. As a result of this important development, new challenges and opportunities for education and research in computing and information sciences have emerged. The department has designed its programs to cater those challenges and get full advantage of opportunities. The Department offers a wide range of degree programs at undergraduate and graduate levels. The undergraduate programs include Bachelor of Science in Computer Science-BS (CS) and Bachelor of Science in Software Engineering-BS (SE). The graduate programs include:

1. Master of Science in Computer Science-MS (CS)
2. Master of Science in Software Engineering MS (SE)
3. Doctor of Philosophy in Computer Science Ph.D. (CS)

Mission

The mission of Computer Science Department is to provide quality education in both theory and applications of computer science, information technology and software engineering to serve the community. We aim to integrate with other departments for achieving knowledge as a whole. We strive to equip our graduates with awareness of ethical norms and technological skills to promote their entrepreneurial behaviour and leadership expertise.

Postgraduate Programs

The postgraduate program of Computer Science Department aims at producing high quality scholars in the areas of computer science who possess leadership skills to provide effective solutions to the industrial, community, and 2 academic problems. We aim to develop and sustain a research culture by imparting innovative and multidisciplinary approach. The scholars are groomed in such a culture that would help them to possess analytical & critical thinking, and problem-solving skills to carry out independent research.

Program Goals and Objectives

1. Advanced domain knowledge
 - To make scholars aware of various dynamics in the field of computer science to achieve:
 - a. Competency to explore new streams of research.
 - b. Capability to use state-of-the-art techniques, skills, and tools necessary for the practice in the relevant area.
2. Research contribution:
 - To enable researchers to apply acquired knowledge to contribute in the relevant areas to provide:
 - a. Original and enhanced contribution in relevant research.
 - b. The evidences of effective utilization of tools & techniques to give innovative integrated solutions.
3. Critical analysis and problem solution
 - To empower scholars to critically analyze problems, and provide their solutions with the:
 - a. Capability to sense a problem, identify the computing requirements for various solutions and implement the most optimized one.
 - b. Ability to design, implement, and evaluate computer-based system solutions.
4. Research ethics
 - To produce researchers with the consciousness of ethical, professional, and legal values, who possess the ability:
 - a. To give due credit to other related works.
 - b. To maintain originality & transparency in the research.
 - c. To be aware of intellectual property rights.
5. Leadership
 - To nourish scholars to exercise leadership skills that enable them to effectively lead teams to trigger innovative research, with efficiency of:
 - a. Coordinating multi-disciplinary teams.
 - b. Providing proper guidance towards quality research.

Introduction to MS Program

Sukkur IBA University offers MS Computer Science and MS Software Engineering with objective to prosper, flourish and extend the great knowledge about emerging trends of computing research through rigorous research and dedicated education in order to benefit society and country. There are two different tracks: MS with thesis, and MS with course work.

Distribution of Total Credit Hours (MS with Thesis)

Category of Area	Credit Hours
Core Courses	09
SIBAU Core Courses	09
Specialization Elective Courses	12
Thesis	09
Total Credit Hours	39

Distribution of Total Credit Hours (with Course Work)

Category of Area	Credit Hours
Core Courses	09
SIBAU Core Courses	09
Specialization Elective Courses	21
Total Credit Hours	39

Semester wise Plan for MS with Thesis

Semester I (Credit Hours: 12)

Category of Area	Credit Hours
SIBAU Core-I	03
SIBAU Core-II	03
SIBAU Core-II	03
MS Core-I	03
Total	12

Semester II (Credit Hours: 12)

Category of Area	Credit Hours
MS Core-III	03
MS Core-IV	03
Specialization Elective-I	03
Specialization Elective-II	03
Total	12

Semester III (Credit Hours: 09)

Category of Area	Credit Hours
Thesis – I	03
Specialization Elective-III	03
Specialization Elective-IV	03
Total	09

Semester IV (Credit Hours: 06)

Category of Area	Credit Hours
Thesis – II **	06
Total	06

* Maximum duration for submission of the thesis proposal and getting approved by the Doctoral Committee is Three Months from the date of Registration

** Minimum duration for Thesis completion is 6 months and maximum duration is 18 months. In case of exceed the candidate will have to get approval from the Doctoral Committee and he/she will have to pay fees also.

Semester wise Plan for MS with Course work

Semester I (Credit Hours: 12)

Category of Area	Credit Hours
SIBAU Core-I	03
SIBAU Core-II	03
SIBAU Core-III	03
MS Core-I	03
Total	12

Semester II (Credit Hours: 12)

Category of Area	Credit Hours
MS Core-II	03
MS Core-III	03
Specialization Elective-I	03
Specialization Elective-II	03
Total	12

Semester III (Credit Hours: 9)

Category of Area	Credit Hours
Specialization Elective-III	03
Specialization Elective-IV	03
Specialization Elective-V	03
Total	09

Semester III (Credit Hours: 9)

Category of Area	Credit Hours
Specialization Elective-III	03
Specialization Elective-IV	03
Specialization Elective-V	03
Total	09

Semester IV (Credit Hours: 6)

Category of Area	Credit Hours
Specialization Elective-VI	03
Specialization Elective-VII	03
Total	06

Eligibility Criteria

Admission is purely merit-based and depends exclusively on the following factors:

- Academic Eligibility
- Performance in NTS/STS GAT General Test
- Interview Performance
- Essay Writing

1. Academic Eligibility

- BS/B.E., in Computer Science/Engineering, Software Engineering, Telecommunication Engineering, Electrical Engineering, and Electronics Engineering 4 Years Degree Program (min 130 credit hours), or
- 16-year Science and Engineering degree.
- Minimum required score 50% or CGPA 2.2 from any HEC recognized institution
- Bachelor Degree Discipline requirement:
 - Computer Science
 - Computer Engineering
 - Software Engineering
 - Telecommunication Engineering
 - Electrical Engineering
 - Electronic Engineering
 - Information Technology

2. NTS/STS GAT General TEST

- The Applicant must have passed the NTS/STS GAT General test for admission.
- GAT (General) Test conducted by NTS/STS with minimum 50% cumulative score at the time of admission.
- International General-GRE by ETS

3. Interview Performance

- Only shortlisted applicants on the basis of GAT (General) Test conducted by NTS/STS will be invited for interview.

4. Essay Writing

- A topic related to research, current affairs or daily life, will be assigned to candidate for writing an essay.

Breakdown of the Marks

Category	Weightage
GAT (General) NTS/STS Test	50%
Academic Performance	25%
Interview	25%

Degree Requirements for MS in Computer Science/Software Engineering

There are two tracks to do MS with Thesis or with course work, for completion of MS degree, the candidates must fulfill the following requirements:

- **MS with Thesis Work:**
 - Candidates must have completed 24 credit hours Course work.
 - Candidates must submit the thesis and defend their thesis after they are approved by the internal and the external examiners (9 credit hours).
- **MS with Project Work:**
 - Candidates must have completed 39 credit hours of Course work.
 - Candidates must secure/maintain minimum Cumulative GPA of 2.2 (on a scale of 4)
- **MS with Course Work:**
 - Minimum: 3/4 semesters (1.5/2 years) for fulltime MS student, and 8 Semesters (4 years) for part time student
 - Maximum: 3 Years for fulltime MS student, and 6 years for part time MS student.

Introduction to PhD in Computer Science

The purpose of the PhD program is to provide an educational experience, which will enable its graduates to develop new knowledge in the discipline. PhD candidates are fundamentally driven by their desire to advance the state of the art, and to discover new phenomena, theories and applications that were previously unknown. The Sukkur IBA University's PhD Program puts emphasis on rigorous coursework and high quality research that worth of publishing in peer-reviewed international conferences and journals. A PhD student is encouraged to tackle both course work and research in parallel; success in both of these components is a requirement for the award of the PhD degree.

Structure of PhD Program

Category of Area	Credit Hours
Course Work	24
Thesis	30
Total Credit Hours	54

Semester wise plan

Semester II (Credit hrs:09)

Course Title	Credits Hours
Specialization Elective-I	3
Specialization Elective -II	3
SIBAU Core-I	3
Seminar	3

Semester II (Credit hrs:09)

Course Title	Credits Hours
Specialization Elective -III	3
Specialization Elective -IV	3
SIBAU Core-II	3
Seminar-II	3
Total	12

Semester III (Credit Hours: Zero)

Course Title	Credits Hours
Comprehensive Examination	--
Proposal Submission and Defence	--

Semester IV and V

Course Title (30 Credits Hours)
Doing Research and Publications for proposed topic and Thesis Dissertation
Semester VI
Dissertation Completion and submission

Eligibility Criteria

Admission is purely merit-based and depends exclusively on the following factors:

- Academic Eligibility and Performance in the GRE (International)/GAT Subject Test/SIBA Graduate Test as per HEC passing criteria
- Interview Performance
- Research Proposal

Academic Eligibility

- 18-year Computer Science and Engineering graduates are eligible:
 - Computer Science
 - Computer Engineering
 - Software Engineering
 - Information Technology
- Student must possess the degree of MS/M.Phil with minimum of 70% or CGPA 3.0 (out of 4.0 in the Semester System) OR First Division (in the Annual System) in MS/M.Phil Equivalent is required from the HEC recognized university/institution.

Additional Requirements

- GRE (International) Subject Test with minimum 60% Percentile Score OR In the case of GAT Subject test a minimum of 60% marks is required to pass the test
- Two references from the institute/university last attended
- Brief proposal indicating research interests

SIBA Graduate Test (SIBAGT)

- The applicant has to appear in Sukkur IBA Graduate test that is equivalent to GRE (General and Subjective) test
- The test is composed of 60% percent from relative field of subjects and 40% from English and Mathematics.

Interview Performance

- Only shortlisted applicants will be called for interview.
- Finally, applicants will be shortlisted on the basis of their academic performance and test scores

Research Proposal:

A research proposal should contain around 500-1000 words outlining the research that candidate is intended to carry out during his/her PhD degree. A PhD research proposal should include research title, abstract, problem background, research impact and references section

Breakdown of the Marks

Category	Weightage
GAT (General) NTS/STS Test	50%
Academic Performance	25%
Interview	25%

Degree Requirements for PhD in Computer Sciences

For completion of PhD degree, the candidates must fulfill the following requirements:

- Candidate must take and pass the PhD Comprehensive Examination after the completion of course work.
- Candidate of PhD program must have their research work conducted at Sukkur IBA University and the research should be accepted by and published in HEC recognized journals. It is also necessary that the research must be accepted prior to final dissertation defense.
- The Candidate must have cleared GRE (International) Subject Test according to HEC criteria
or The Candidate must have cleared SIBA Graduate Test.
- The PhD candidate will require to complete his/her PhD research work during the prescribe duration and submit it to PhD supervisor in the form of final dissertation/thesis. The supervisor will then send this to Examination department for evaluation. Examination department will conduct PhD thesis evaluation procedure as per criteria set by Sukkur IBA University under the HEC guidelines.

Course Duration:

- Minimum: 3 years including course work and research dissertation
- Maximum: 3-8 years including course work and research dissertation

Comprehensive Exam Policy

- A PhD scholar can only appear in the Comprehensive exam if he/she has qualified all the courses with CGPA 3.0
- The Comprehensive exam of PhD (CS) will be comprised of two papers, i.e., Core Subjects and Research Methods, each of which will be of 2 to 4 hours in duration. The weightage of these exams would be as under:

Paper 1: From Core Subjects/Area	60 Marks
Paper 2: Research Methods	40 Marks

- For passing the comprehensive exam, a candidate has to secure minimum 60 % marks in each of above-mentioned portion/paper and has to secure overall/aggregated 60% marks in the comprehensive exam
- The course outline of the Core Subjects and Research Methods papers will be prepared by internal as well external experts in the light of the course taught to the candidate during his/her PhD course work and this course outlines will be shared with the candidate in advance.
- The Expert who prepared the course outlines of the cited two written papers would be requested to prepare and assess the two exams
- There will be at least two subject experts; one must be external, for evaluating the Oral Exam
- Only THREE chances will be given to the candidate to qualify the comprehensive exam

MS/PhD Faculty

S.No	Name	Designation	Specialized Area
1	Dr. Javed Ahmed	Professor/ Head of Department	Privacy and Data Protection in Social Web Semantic Web
2	Dr. Muhammad Abdul Rehman Soomrani	Professor	Scientific Data and Workflow Management Data Mining, Big Data Analytics
3	Dr. Sher Muhammad Doudpota	Professor/Director QEC	Multimedia Data Mining Data Analytics
4	Dr. Zahid Hussain Khand	Professor	ICT in Education
5	Dr. Ghulam Mujtaba Shaikh	Professor/ Director CRAIB	Machine Learning, Text Classification, Image Classification, Digital Image Processing, NLP
6	Dr. Qamar Uddin Khand	Professor/Director 3D Graphics	Sketch-Based Interfaces and Modeling Computer Graphics Software Engineering
7	Dr. Ahmed Waqas	Associate Professor (Lien)	Cloud and Distributed Computing
8	Dr. Ahsanullah Abro	Assistant Professor	Empirical Software Engineering Human factors in software development teams, Rough and Fuzzy Modelling
9	Dr. Raheel Ahmed Memon	Associate Professor/MS-PhD Coordinator	Blockchain and Internet of Things and Cloud Computing
10	Dr. Faheem Akhtar Rajput	Associate Professor/ Coordinator Accreditation	Machine Learning
11	Dr. Irshad Nazir (Lien)	Assistant Professor	Network Security and cryptography
12	Dr. Samar Raza Talpur	Assistant Professor/Editor SJCMS	Machine Learning, Digital Image Processing, Wireless Sensor Network
13	Dr. Sajid Khan (Lien)	Assistant Professor	Image Processing
14	Dr. Asif Rajput	Assistant Professor	Artificial Intelligence
15	Dr. Khursheed Ali	Assistant Professor	Deep Learning, Reinforcement

S.No	Name	Designation	Specialized Area
16	Dr. Asif Khan	Assistant Professor/ Coordinator Undergrad program	Robotics and Computer Networks
17	Dr. Muhammad Ajmal Sawand	Assistant Professor/ Coordinator NFTP Program	Software Engineering, Human Computer Interaction System Analysis and Design
18	Dr. Asif Raza Shah (Lien)	Assistant Professor	Cloud Computing
19	Dr. Abdul Rehman Gilal (Lien)	Assistant Professor	Human Factor and Software Engineering
20	Dr. Muhammad Hussain Mughil	Assistant Professor/ Coordinator FYP	Blockchain, Data Science, Semantic Web, Distributed Systems, and Software Engineering
21	Dr. Zakria	Assistant Professor	Artificial Intelligence, Computer Vision, deep learning, and Cyber Security
22	Dr. Faisal Bin Ubaid	Assistant Professor	Software Defined Networks



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