



# Sukkur IBA University MS & PhD in Computer Science

[www.iba-suk.edu.pk](http://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

# Description

# Page

|   |    |
|---|----|
| Sukkur IBA University Vision & Mission.....         | 04 |
| Sukkur IBA University Introduction .....            | 05 |
| Facilities & Infrastructure .....                   | 06 |
| Introduction to Department of Computer Science..... | 10 |
| Introduction to MS Program.....                     | 12 |
| Structure of MS Program .....                       | 12 |
| Eligibility Criteria for MS.....                    | 13 |
| Introduction to PhD Program.....                    | 14 |
| Structure of PhD Program .....                      | 14 |
| Eligibility Criteria for PhD.....                   | 16 |
| List of PhD Faculty Members .....                   | 18 |

# 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).

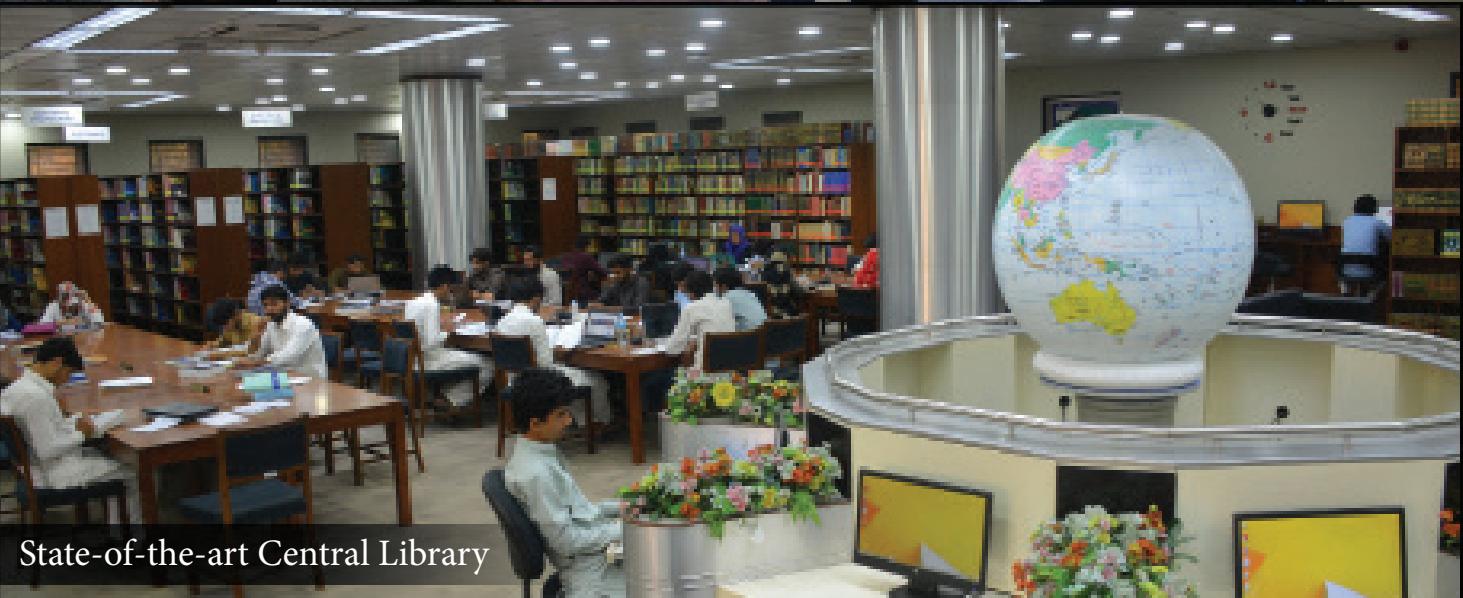


# Facilities and Infrastructure at Sukkur IBA University

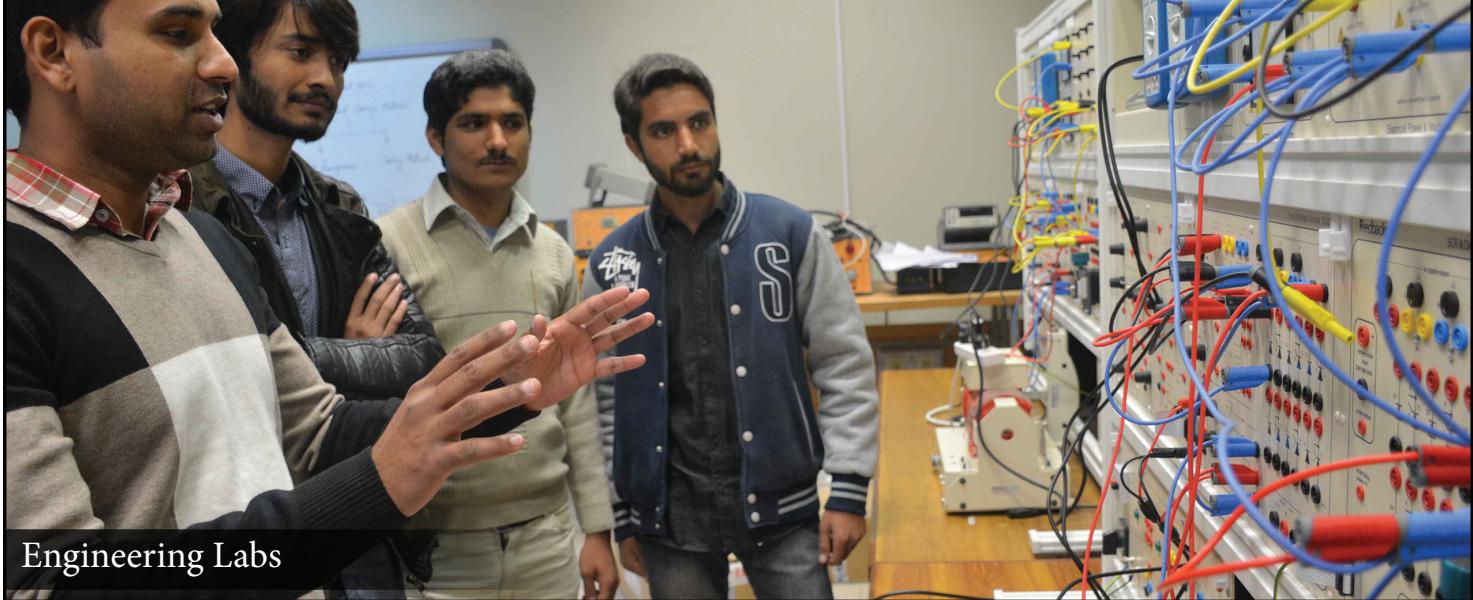
Career Development Center



Video Conferencing



State-of-the-art Central Library

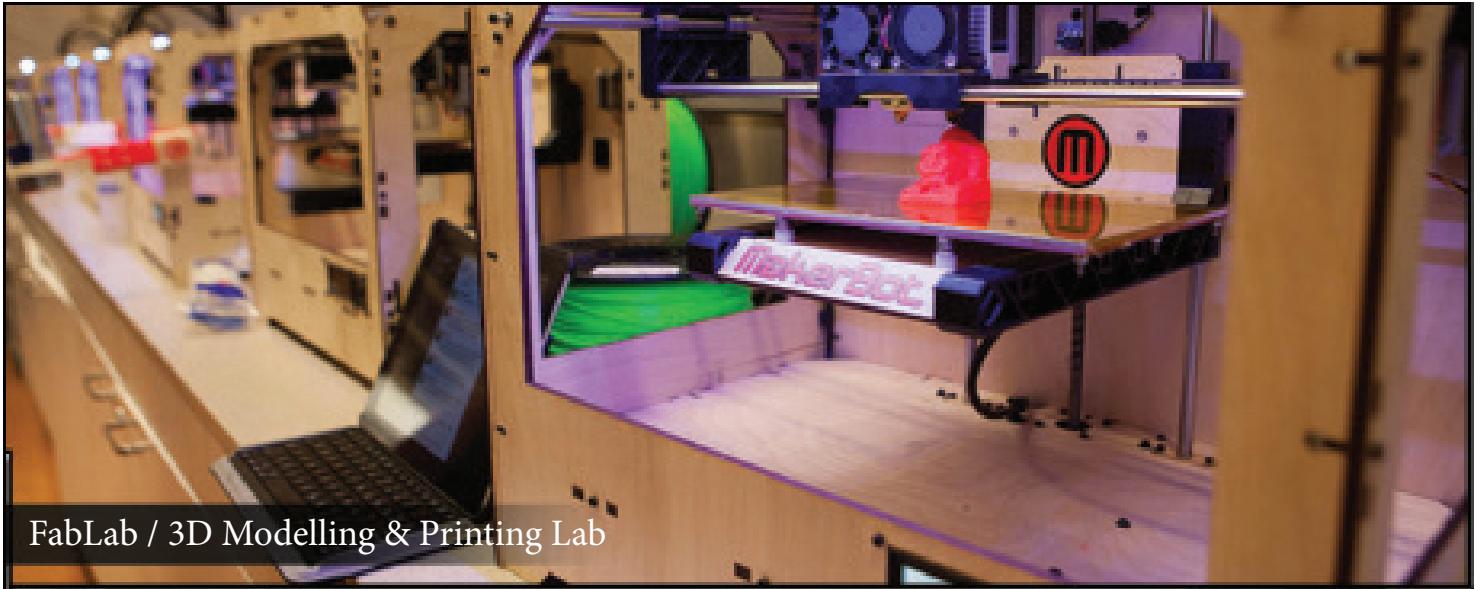




High Speed Internet Connectivity  
and Smart University Initiative



Uninterrupted Power Supply



FabLab / 3D Modelling & Printing Lab



English Language Lab



Behavioral Lab

# **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 Master of Science in Computer Science-MS (CS), Master of Science in Software Engineering MS (SE) and 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 behavior 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 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 three different tracks: MS with thesis, MS with Project and MS with course work.

## **Structure of MS Program**

| <b>Category of Area</b>         | <b>Credit Hours</b> |
|---------------------------------|---------------------|
| Core Courses                    | 09                  |
| Specialization Elective Courses | 15                  |
| Thesis                          | 06                  |
| Total Credit Hours              | 30                  |

### **Distribution of Total Credit Hours (MS with Project)**

| <b>Category of Area</b>         | <b>Credit Hours</b> |
|---------------------------------|---------------------|
| Core Courses                    | 09                  |
| Specialization Elective Courses | 18                  |
| Project                         | 03                  |
| Total Credit Hours              | 30                  |

### **Distribution of Total Credit Hours (MS with Course)**

| <b>Category of Area</b>         | <b>Credit Hours</b> |
|---------------------------------|---------------------|
| Core Courses                    | 09                  |
| Specialization Elective Courses | 21                  |
| Total Credit Hours              | 30                  |

# Eligibility Criteria

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

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

## 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.

## 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.

## 3. Interview Performance

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

## 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

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

- Candidates must have completed MS studies either through Thesis/Project/Course work.
- **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.
- **MS with Project Work:**
  - Candidates must have completed 27 credit hours Course work.
  - Candidate must submit the Project report and defend it in front of Doctoral Committee.
- **MS with Course Work:**
  - Candidates must have completed 30 credit hours Course work.
  - Candidates must submit the Project report and defend in front of Doctoral Committee.
  - Candidates must have cleared two non-credit courses offered as SIBA Elective courses
  - Candidates must secure/maintain minimum Cumulative GPA of 2.2 (on a scale of 4)

## 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 is 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        | 18           |
| Thesis             | 30           |
| Total Credit Hours | 48           |

## **First Year: Semester II (Credit hrs:09)**

| <b>Course Title</b>         | <b>Credits Hours</b> |
|-----------------------------|----------------------|
| Specialization Elective-I   | 3                    |
| Specialization Elective -II | 3                    |
| Seminar-II                  | 3                    |
| Total                       | 09                   |

## **First Year: Semester II (Credit hrs:09)**

| <b>Course Title</b>         | <b>Credits Hours</b> |
|-----------------------------|----------------------|
| Specialization Elective-I   | 3                    |
| Specialization Elective -II | 3                    |
| Seminar-II                  | 3                    |
| Total                       | 09                   |

## **Second Year: Semester III**

| <b>Course Title</b>                           | <b>Credits Hours</b> |
|---|----------------------|
| Comprehensive Examination                     |                      |
| Writing of Research Proposal for Dissertation |                      |
| First Seminar for Proposal                    |                      |

## **Second Year: Semester IV**

| <b>Course Title</b> | <b>Credits Hours</b> |
|---------------------|----------------------|
| Dissertation        |                      |

## **Third Year: Semester V**

| <b>Course Title</b> | <b>Credits Hours</b> |
|---------------------|----------------------|
| Dissertation        |                      |

## **Third Year: Semester VI**

| <b>Course Title</b> | <b>Credits Hours</b> |
|---------------------|----------------------|
| Dissertation        |                      |

# Eligibility Criteria

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

## Academic Eligibility

- Performance in the GRE (International) / NTS / STS (GAT Subject Test) as per HEC passing criteria
- Interview Performance

## Academic Eligibility

- MS (Computer Science, Software Engineering, Information Technology) 18 years degree
- 18-year Computer Science and Engineering graduates are eligible
- 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

## 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



## 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.



## MS/PhD Faculty

| Name                               | Designation  | Specialized area  |
|------------------------------------|--|---|
| Dr. Ahmad Waqas                    | Professor/Head of Department                         | Cloud and Distributed Computing   |
| Dr. Muhammad Abdul Rehman Soomrani | Professor  | Scientific Data and Workflow Management Data Mining, Big Data Analytics   |
| Dr. Sher Muhammad Doud-pota        | Professor/Director QEC                               | Multimedia Data Mining Data Analytics   |
| Dr. Ghulam Mujtaba Shaikh          | Associate Professor/ Coordinator MS & PhD Program    | Machine Learning, Text Classification, Image Classification, Digital Image Processing, Natural Language Processing, Deep Learning |
| Dr. Qamar Uddin Khand              | Associate Professor                                  | Sketch-Based Interfaces and Modeling Computer Graphics Software Engineering   |
| Dr. Javed Ahmed Shahani            | Associate Professor                                  | Privacy and Data Protection in Social Web Semantic Web  |
| Dr. Sajid Khan                     | Assistant Professor                                  | Image Processing  |
| Dr. Muhammad Ajmal Sawand          | Assistant Professor                                  | Human Computer Interaction System Analysis and Design   |
| Dr. Ahsanullah Abro                | Assistant Professor                                  | Empirical Software Engineering Human factors in software development teams Rough and Fuzzy Modeling (Rough-Fuzzy hybridization)   |
| Dr. Abdul Rehman Gilal             | Assistant Professor                                  |   |
| Dr. Asif Rajput                    | Assistant Professor                                  |   |
| Dr. Samar Raza Talpur              | Director Institute of Emerging Technologies Khairpur |   |





Sukkur IBA University  
Airport Road Sukkur 65200, Sindh, Pakistan  
+92 71 5644000  
[www.iba-suk.edu.pk](http://www.iba-suk.edu.pk)  
[www.facebook.com/SukkurIBA.University](https://www.facebook.com/SukkurIBA.University)