

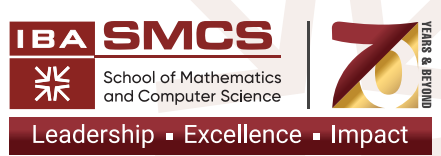


# WHY MS-DATA SCIENCE AT IBA?

IBA's MS Data Science program offers a robust foundation at the intersection of statistics, machine learning, and computational analytics. Designed for both early-career professionals and aspiring data scientists, the program emphasizes critical thinking, technical proficiency, and applied research. Students gain expertise in big data, predictive modeling, and AI-driven insights—preparing them for roles across industries such as technology, healthcare, finance, and public policy. With a dynamic curriculum, flexible learning pathways, and real-world project exposure, graduates are equipped to lead in data-driven environments and pursue advanced research or strategic industry positions.

- 39 credit hours
- 02 years minimum completion time
- Industry-aligned curriculum with project-based learning
- Equips students with both theoretical & applied skills
- Exposure to big data, and AI
- Foundation courses for non-CS students

## SCHOOL OF MATHEMATICS & COMPUTER SCIENCE



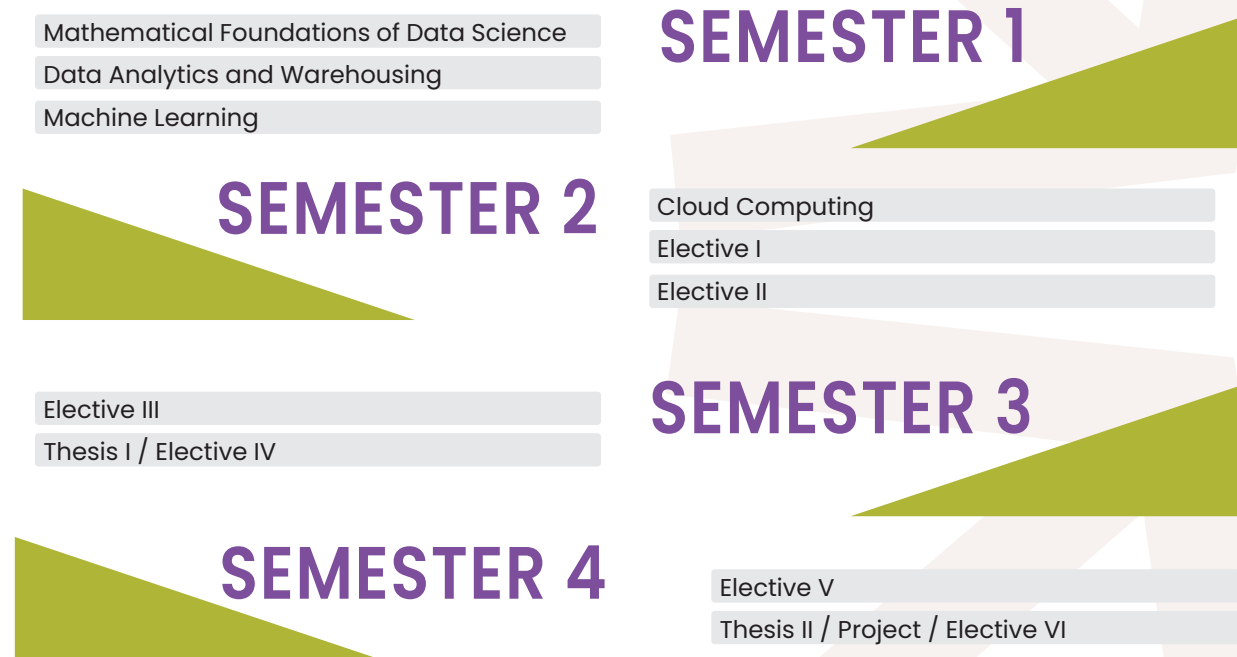
IBA Karachi is one of Pakistan's premier institutions, known for academic excellence, interdisciplinary learning, and cutting-edge research across diverse fields.

The School of Mathematics and Computer Science (SMCS) is a rapidly growing academic unit at IBA, offering excellence in computing and mathematical sciences. With a highly qualified faculty comprising researchers and industry experts, SMCS integrates rigorous academics with practical exposure. The school houses advanced labs in Artificial Intelligence, Web Science, Big Data, and Telecommunications. Its programs in Computer Science and Mathematics provide a solid foundation in theory and application—preparing students for research, higher education, and impactful careers in the tech and data-driven economy.



## COURSE STRUCTURE

The MS Data Science program at IBA comprises 30 credit hours, including a mix of core and elective courses. Students without a computer science background are required to take two foundation courses: Data Structures & Algorithms and Databases. The curriculum covers areas such as machine learning, statistical modeling, big data analytics, and data visualization. In addition, a research-based thesis option is available for eligible students who wish to pursue deeper specialization and academic research in the field.



## ELECTIVE COURSES

The MS Data Science electives at IBA offer a comprehensive blend of advanced topics designed to equip students with cutting-edge analytical and technical skills. Courses include Deep Learning, Probabilistic Reasoning, Text Analytics, Computer Vision, Information Retrieval, Computational Intelligence, Internet of Things, Cybersecurity Operations, and Cloud Security. This diverse portfolio enables students to specialize in modern data applications, enhancing their readiness for careers in AI, analytics, digital security, and research-intensive domains.

## SCHOLARSHIPS, GRANTS & FINANCIAL ASSISTANCE

- Installment Plan:** The students can apply for 2-3 installments per semester. However, the installments must be paid within the same semester.
- Need-based Financial Assistance:** The IBA encourages aspiring students from diverse social backgrounds to enroll and study at the IBA.
- Qarz-e-Hasna:** The IBA facilitates its students in securing an interest-free loan (Qarz-e-Hasna) to pay their tuition fee during their study period.
- Research & Teaching Assistantships (RA/TA):** IBA offers part-time, paid opportunities for students to work as Research Assistants (RAs) or Teaching Assistants (TAs) as part of its financial assistance and academic enrichment initiatives.



## ACADEMIC ENVIRONMENT

### ADVANCED DATA SCIENCE TRAINING

The MSDS program at IBA offers a solid foundation in statistical modeling, probabilistic reasoning, machine learning, and big data analytics. Students develop expertise in extracting insights and building solutions through theory and applied practice.

### RESEARCH-DRIVEN & INDUSTRY-ALIGNED

With a strong emphasis on research, students engage in faculty-led projects across artificial intelligence, cloud computing, and deep learning. This exposure equips them for roles in R&D and industry innovation.

### COMPUTATIONAL TOOLS & TECHNOLOGICAL EDGE

Students gain hands-on experience using modern computational tools and real-world data platforms. Labs, simulations, and collaborative projects prepare them for advanced research and dynamic industry roles.



## CAREER OPPORTUNITIES

Graduates of the MS Data Science program at IBA are equipped with advanced analytical and technical skills to solve real-world problems and lead data-driven innovation across industries including:

- Data Scientist
- Business Intelligence Specialist
- Data Visualization Expert
- Cloud Data Solutions Architect
- Data Analyst
- Predictive Modeling Analyst

## ELIGIBILITY CRITERIA

- Minimum 16 years of education in fields like Computer Science, Statistics, Economics, Mathematics, Accounting & Finance, Physics, or Engineering (e.g., Electrical, Electronics) or equivalent to at least 4 years at an HEC-recognized institution.
- A minimum CGPA of 2.5 (out of 4.0) or 60% marks in the most recent degree — percentage is considered only if CGPA is not available.

### APTITUDE TEST EXEMPTION

Minimum score of 600 on the GMAT, or a GRE score of 160 in quantitative and 150 in verbal.



<https://cs.iba.edu.pk/msds/>

FOR MORE INFORMATION



### Main Campus

University Enclave, University Road,  
Karachi - 75270 Pakistan  
Phone : +92-(21) 3810-4700

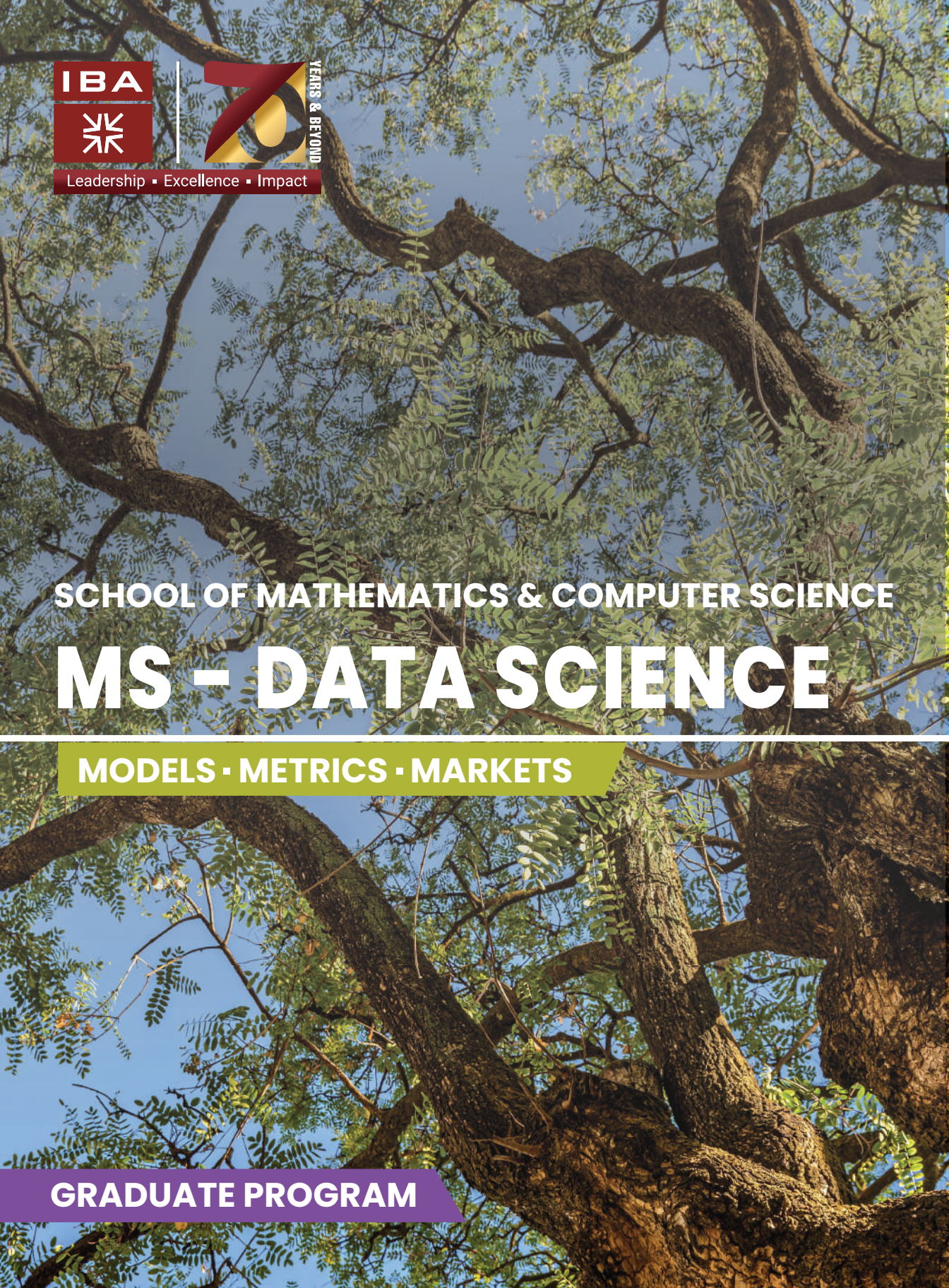
[www.iba.edu.pk](http://www.iba.edu.pk)

+92 21 111 422 422

### City Campus

Plot # 68 & 88 Garden / Kayani  
Shaheed Road, Karachi - 74400 Pakistan  
Phone : +92-(21) 3810-4701

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Leadership • Excellence • Impact



SCHOOL OF MATHEMATICS & COMPUTER SCIENCE

# MS - DATA SCIENCE

MODELS • METRICS • MARKETS

GRADUATE PROGRAM