



WHY BS-ECONOMICS AND DATA SCIENCE

AT IBA?

The BS Economics and Data Science program integrates economic theory with advanced data science skills, including machine learning, econometrics, and statistical programming. It prepares students to analyze complex economic and societal challenges using data-driven insights. Aligned with global academic trends, the program addresses the growing demand for professionals who can bridge economics and computational analytics across finance, policy, and development sectors.

- 128 credit hours, capstone project and internship
- 4-years Full-time completion time
- Integrated economics & data science curriculum
- Training in econometrics, ML & data analytics
- Future-ready skill sets
- Hands-on projects with real-world datasets

SCHOOL OF ECONOMICS & SOCIAL SCIENCES



IBA is located in Karachi — the financial hub of Pakistan — and is one of the country's most prestigious higher education institutions.

Its School of Economics and Social Sciences (SESS) is a dynamic academic hub that brings together two departments, two research centers, and three specialized labs. The school hosts over 1,000 students with a balanced male-to-female ratio (48:52), fostering diversity and inclusivity. With 45+ PhD faculty members, SESS emphasizes academic rigor, research excellence, and global engagement. Students benefit from international exchange opportunities, research grants, and vibrant campus life. SESS maintains global connections with a 1,200+ strong alumni network across the US, UK, Germany, Turkey, Canada, and beyond—many of whom have pursued graduate studies on prestigious scholarships like Fulbright, Erasmus, DAAD, and Chevening.



COURSE STRUCTURE

SEMESTER 1

- Principles of Microeconomics
- Calculus I
- Introduction to Programming
- Introduction to Statistics
- Critical Reading and Speech Communication

SEMESTER 3

- Intermediate Microeconomics
- Linear Algebra
- Introduction to Academic Writing
- Entrepreneurship
- Civic and Community Engagement
- Data Structures

SEMESTER 2

- Principles of Macroeconomics
- Calculus II
- Statistical Inference
- Introduction to Psychology/Anthropology/Sociology
- Object-Oriented Programming Techniques

SEMESTER 4

- Intermediate Macroeconomics
- Pakistan History
- Physics/Mechanics/Electricity, Magnetism, Waves
- Introduction to Philosophy
- Islamic Scholarly Traditions/Philosophy, Logic, and Ethics *
- Introduction to AI

ELECTIVE COURSES

BS Economics and Data Science students can choose from a wide range of electives such as Deep Learning, Text Analytics, Computer Vision, Business Intelligence, Time Series Analysis, Information Retrieval, and Social Network Analysis. These electives allow students to specialize in high-demand areas and align their studies with industry needs and research interests. Electives vary by semester and prerequisites.

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.

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.

Need-based Financial Assistance: The IBA encourages aspiring students from diverse social backgrounds to enroll and study at the IBA.

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.

SEMESTER 5

- Applied Econometrics I
- Microeconomic Theory
- Introduction to Machine Learning
- Database Systems
- Accounting and Finance

SEMESTER 7

- Causal Inference/Impact Evaluation Methods
- Economics elective I
- Capstone Project
- Data Science elective I
- Economics elective II

SEMESTER 6

- Applied Econometrics II
- Research Methods for Economics
- Personal Effectiveness
- Business Intelligence
- Macroeconomic Theory

SEMESTER 8

- Data Science elective II
- Data Science elective III
- Economics elective III
- Economics elective IV
- Capstone Project
- Interdisciplinary/Allied elective IV **

SUMMER SEMESTER : Internship

* All Muslim students are required to register for Islamic Scholarly Tradition (IST), Non-Muslim students may take Philosophy Logic and Ethics (PLE)

** Students must select two Interdisciplinary/Allied elective courses from Finance, Social Sciences, Mathematics, Statistics and Computer Science.



ACADEMIC ENVIRONMENT

INTERDISCIPLINARY LEARNING & ANALYTICAL THINKING

At IBA, the BS Economics & Data Science program integrates economic theory with advanced data analytics, programming, and statistical modeling. Students develop strong analytical and critical thinking skills to interpret complex datasets and solve real-world economic and societal challenges.

DATA-DRIVEN RESEARCH & PRACTICAL EXPOSURE

Students gain hands-on experience through data labs, research projects, and applied coursework. Access to real-world datasets, machine learning tools, and econometric techniques enables students to build practical insights and industry-relevant expertise.

IMPACT, POLICY & INNOVATION FOCUS

Aligned with IBA's commitment to leadership and impact, the program prepares students to address pressing issues in policy, finance, and development. Through data-driven approaches, students contribute to meaningful solutions in areas such as economic growth, sustainability, and public policy.



CAREER OPPORTUNITIES

The students enrolled in the BS Economics and Data Science program are prepared for diverse, data-driven roles across finance, policy, and technology sectors:

- AI & Data Solutions Associate
- Market & Consumer Insights Analyst
- Policy & Research Analyst
- Business Intelligence Analyst
- Risk & Quantitative Analyst
- FinTech Analyst

ELIGIBILITY CRITERIA

- Applicants must have secured a minimum of 60% marks in their HSSC or an equivalent qualification from a recognized educational board or institution.
- Admission is granted based on overall performance in the IBA Aptitude Test and a subsequent interview conducted by the admissions committee.

APTITUDE TEST EXEMPTION

Candidates may be exempted from the IBA Aptitude Test for the BS Economics and Data Science program if they submit a minimum SAT score (based on merit), an ACT composite score of 28, or equivalent international qualifications. However, exemption is competitive, and appearing for the IBA Aptitude Test is strongly encouraged to enhance admission chances.



<https://economics.iba.edu.pk/bs-eds.php>

FOR MORE INFORMATION



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

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

www.iba.edu.pk
+92 21 111 422 422

[f](#) [X](#) [in](#) [ig](#) [yt](#) [dj](#) **ibakhiofficial**



SCHOOL OF ECONOMICS & SOCIAL SCIENCES BS - ECONOMICS AND DATA SCIENCE

DATA · ECONOMICS · DECISIONS

UNDERGRADUATE PROGRAM