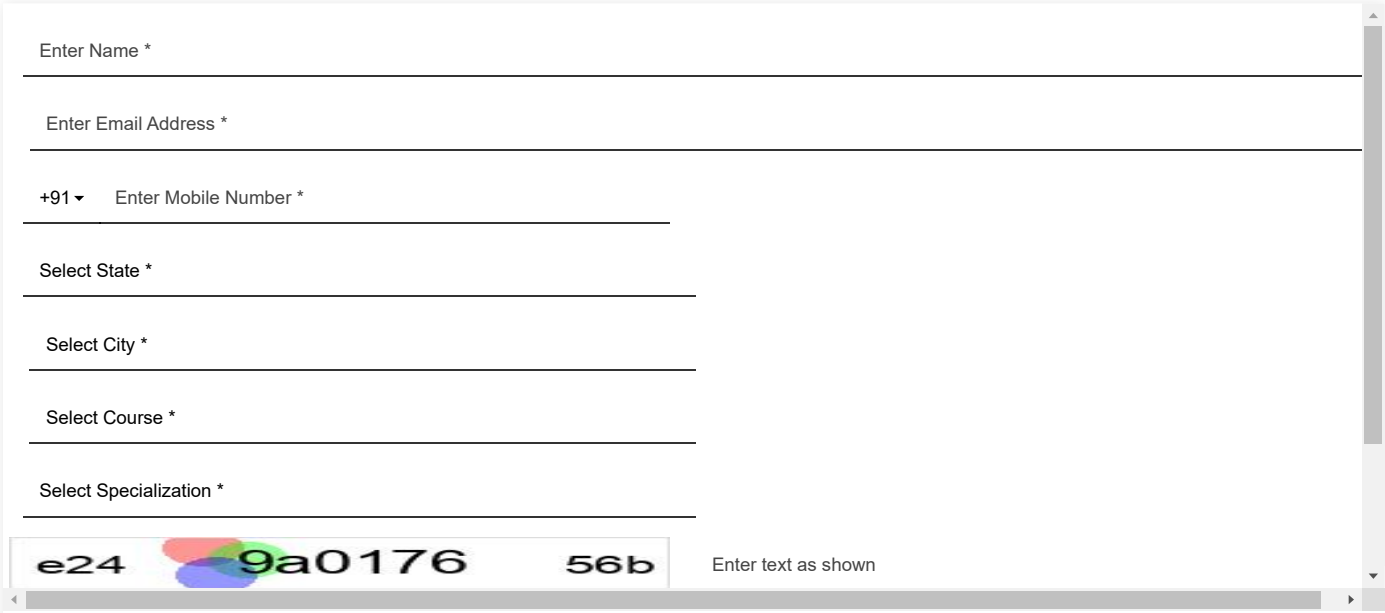
BTech Data Science

An advanced BTech course to take you on a high-growth career path.



NIIT University (NU) has been offering Data Science-related courses, specializations, and industry-linked programmes since 2014. Our students have excelled both in industry and academia and continue to make a mark as able, sought-after data scientists.

Data Science is considered the fourth paradigm of science, after Empirical, Theoretical, and Computational paradigms. Our daily lives generate more data than ever before due to the adoption of digital technologies. With the advent of IoT (Internet of Things) and Industry 4.0, the volume of data is growing at an exponential rate. In that wealth of data, lie insights that can be used to change our world for the better. This has led to the matured discipline of Data Science that involves collection, visualization, processing and modelling of large and complex data sets from different domains and sources.

NU's BTech Programme in Data Science is a winning combination of more than eight years of experience in the field combined with insights from trends across academic institutions and industry.

The BTech Data Science course will give students the knowledge, skills and tools needed to handle complex data from all possible domains. It is a 4-year undergraduate programme that prepares students to acquire, manage, and elicit meaning from data for improved decision-making in the business world.

Apply now

Enquire now

BTech Data Science – Distinguishing Features

Like all our other flagship programmes, the BTech Data Science course is designed around NU's **core principles** of providing industry-linked, technology-based, research-driven and seamless education.

Our BTech Data Science programme is an advanced course that puts you into a high-growth journey. Here's how:

- Industry-linked course architecture/curriculum
- Industry-academic synergy for real-life immersive learning

> **We are very impressed with both the skills and attitude of NU graduates who have gone through the Analytics and Cognitive (Data Science) programme. They demonstrate terrific aptitude and attitude towards learning. We need more such graduates and they are performing significantly above the mass hired engineering graduates we hire from the top engineering institutions. The curriculum for the program is jointly designed by IBM (Cognitive group) and NU faculty and reflects the dynamic and changing requirements in the market place."**
>
> — Vijay Muralidaran, Data Science Leader, Cognitive & Advance Analytics CIC, IBM.

The programme offers an immersive experience. Students of BTech Data Science work on two capstone projects, one research & development project, and engage in a 6-month long Industry Practice.

- Top-notch faculty
- State-of-the-art infrastructure
- The 'Flipped-Classroom' model

Read more about how NU students gain a distinct competitive edge. →

Apply now →

Meet our faculty

Prof Debashis Sengupta

Professor and Area Director

Dr Achintya Roy

Assistant Professor

Dr Dinesh Kumar

Assistant Professor

BTech Data Science – Course Outline

Students at NU's BTech Data Science programme must complete a total of 176 credits spread over 39 courses and 2 Capstone Projects, 1 R&D Project and 1 Industry Practice in Data Science and related subject areas to obtain a BTech degree in Data Science.

Course category	Credits
Mathematics and Basic Sciences (MBS)	20
Engineering Sciences (ESC)	14
Humanities and Social Sciences (HSS)	18
Professional Core Course (PCC)	28
Data Science Core Course (DS)	32
Professional Electives Course (PEC)	20
Open Electives Course (OEC)	12
Project Work, Internship and Industry Practice (PRJ)	32
Environmental Sciences (EVS)	Audit Course

Course category	Credits
Total credits	176

List of Professional Elective Courses in Data Science

01.
Social Media Analytics

02.
Cloud Computing Concepts

03.
Modeling & Simulation

04.
Multimodal data processing & analysis

05.
Numerical Methods for Data Science

06.
Dimensional and NoSQL Databases

07.
Cognitive Computing

08.
Data Stream Mining

09.
Data Integrity and Privacy

10.
Deep Learning

11.
Statistical Machine Learning

12.
Artificial Intelligence

Data Mining

14.
Computer Vision

15.
Business Analytics

16.
Predictive Modelling for Data Science

17.
Big Data Concepts

18.
Artificial Neural Network

19.
Machine Learning

20.
Information Retrieval

21.
Web Intelligence and Algorithms

Apply now →

BTech Data Science Course Syllabus & Structure

Year I (Semester I & Semester II)

A systematic exposure to scientific, mathematical and engineering principles will be given to the students during the first two semesters. In each semester, students will take one course each in Physics, Chemistry, Mathematics, Electronics, Foundation of Computer Programming, Workshop Practice, Engineering Graphics, Data Structures, along with Technical English.

Semester I +

Semester II +

Year II (Semester III & Semester IV)

At the beginning of the third semester, each student will enter his/her chosen area (Data Science). Students are required to complete 46 redits in Year II (Semester III & Semester IV).

Semester III +

Semester IV +

Year III (Semester V & Semester VI)

In their third year of study, each student will have a choice of selecting one open elective course in

one Capstone Project-I and one R & D Project. Students are required to complete 46 credits in their third year (Semester V & Semester VI).

Semester V

Semester VI

Year IV (Semester VII &Semester VIII)

In Semester VII, students of the BTech Data Science programme have a choice of selecting three professional elective courses and two open elective courses, along with Capstone project II. Students are required to complete 44 credits in their Year IV (Semester VII and Semester VIII). In the final semester, the students are required to complete Industry Practice.

Semester VII

Semester VIII

Apply now →

Programme outcomes

NU's undergraduate programmes in Engineering and Management are designed to provide thorough grounding in the respective disciplines, offer a course of work that prepares them for either a professional career or advanced degrees.

NU expects that graduates of the **undergraduate Engineering programmes** will demonstrate the following programme outcomes as defined by NBA (National Board of Accreditation).

PO5

Modern tool usage

Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO6

The engineer and society

Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues, and the consequent responsibilities relevant to the professional engineering practice.

PO7

Environment and susta

Understand the impact
engineering solutions i
environmental context
knowledge of, and nee
development.

Programme Specific Outcomes for Data Science

PSO1

Understand, analyse and develop essential proficiency in the areas related to Data Science and underlying statistical and computational principles, Optimisation techniques and apply the knowledge to solve practical problems

PSO2

Ability to implement Data science techniques along with Artificial Intelligence inferential statistics, predictive modeling, neural networks, natural language processing, machine learning, data visualisation and big data analytics for solving a problem and designing novel algorithms for successful career and entrepreneurship

PSO3

Use modern tools, technologies, and programming languages in the area of Data science

PSO4

Apply the concepts and practical knowledge in analysis, design and development of data driven decision making systems and applications to solve multi-disciplinary problems

PSO5

Ability to develop solutions for prediction and forecasting to industry and societal needs in a rapid changing technological environment and communicate with clients as an entrepreneur

PSO6

To provide a concrete foundation and enrich their abilities to qualify for employment, higher studies and research in Data science and Artificial intelligence with ethical values

PSO7

Pursue higher studies and continue to learn by participating in conferences, seminars and by doing individual and group research in Data science and related areas

Related links

- B Tech Degree Programme
- BBA Programme
- BTech Biotechnology
- BTech Computer Science & Engineering
- BTech Cyber Security Programme
- BTech. Electronics & Communication Engineering (ECE) Programme
- Doctoral programmes
- iMSc
- Industry-linked programmes
- Integrated MBA
- Integrated MTech

- Learn from Masters
- Lifelong learning
- MBA (ISDE) with Coforge Ltd
- MTech (Cyber Security) with Infosys Ltd
- MTech Educational Technology
- MTech Geographic Information Systems (GIS)
- PhD in Biotechnology
- PhD in Comp. Sci and Engineering
- PhD in Educational Technology
- PhD in Electronics & Communications
- PhD in Geographic Informaton Systems
- PhD in Humanities and Social Sciences
- PhD in Management Sciences
- PhD in Mathematics and Basic Sciences
- Post Graduate Diploma (Banking & Finance) with ICICI Bank
- Postgraduate diploma with Axis Bank
- Postgraduate programmes
- Success stories
- Undergraduate and integrated programmes

Converse, enquire, or visit the campus

Apply now →

Chat now | Ask us | Book a visit

UNIVERSITY CAMPUS:

NIIT University,
NH-8, Delhi-Jaipur Highway,
Neemrana, District Alwar (Rajasthan),
Pin-301705

Apply now ⌄ Enquire now ⌄

1800 103 5050

Subscribe to newsletter

Email address

Advantage NU
Academics
Placements
Admissions
Research
NU experience
Virtual tour

About us
Faculty
Blog & Newsletter
Latest at NU
Careers @ NU
Alumni
Quick links
Ask us

TIC