# Programme: BSc Honours (Data Science)

---

BSc Honours (Data Science) is a four year full-time programme that comes under the domains of Computer Science, Business Analytics and Artificial Intelligence. Data Science is an interdisciplinary subject that includes the use of Statistics, Big Data Analytics, Machine Learning and related aspects in order to understand the problem or phenomena with respect to a set of real-world data.

## Data Science:

- is an interdisciplinary subject that uses the basic concepts of statistics, data analysis, machine learning and related subjects to understand and analyse various problems and phenomena with respect to a large set of data.
- includes various theories, techniques and tools from mathematics, statistics, computer science and information technology.

## BSc Honours (Data Science) is offered with the aim of:

- exposing students to broad areas and subjects of Applied Statistics, Data Mining, Predictive Modelling, Big Data Analytics, Machine Learning, Data Visualization across various sectors such as Business, Marketing, Supply Chain, Manufacturing, Operations, Human Resources, Genomics, Healthcare, Banking etc. using hands-on experience.
- producing agile and skilled professionals to understand, collect, extract, analyze and predict the given set of data to solve the major problems through real-time data analysis.

## BSc Honours (Data Science) Couse Objectives:

- This four-year course is designed in such a way that graduates can perform and conduct data-driven investigations by managing and visualizing all types of data.

- Students will understand the concept and develop an in-depth understanding of data science and data analytics.
- Teach students the basic techniques and procedures to analyse quantitative and qualitative data to arrive at solutions by identifying the pattern, predict trends and analyse data sets from different sectors
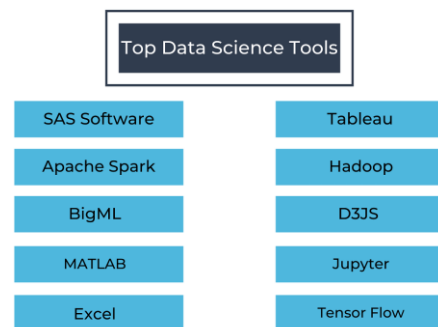
# Why study BSc Honours (Data Science)?

If you are genuinely interested to study Data Science and its various aspects, then **BSc Data Science** is a perfect course for you.

# Skills and Knowledge:

- This course imparts the skills required to study, analyse and predict solutions across various sectors like manufacturing, healthcare, banking, finance, marketing, business strategies, etc.
- After completion of this course, you will be able to deal with large sets of data and you will become an expert in programming, machine learning, data wrangling, data intuition, software engineering, data visualization, etc.
- Core programming languages include **Java**, **SQL**, **Python**, **R**, **SAS**, **Scala**, **Julia**, **MATLAB**, along with the knowledge of **Tableau**, **Hadoop**, and other tools.

# Huge Demand:

- As stated earlier also, data science is one of the **trendiest jobs across the globe** in terms of future scope and career stability.
- Currently, there are more than 2 Lakhs job openings related to this field of study. It is estimated that there will be an increase of at least 40-45% each year in job opportunities in this domain.

- After US, India is next into becoming the analytics hub of the world with over

# Salary:

- The national average salary of a Data Scientist is around **INR 8.1 LPA**, and with time, it can go upto INR 20 LPA within 5-10 years with enough experience.
- The minimum percentage hike for professionals in data science domain is at least 30-40% and it can go as high as 60-70% in well-reputed companies such as Amazon, Deloitte, Publicis Sapient, Cognizant, and others.

# BSc Honours (Data Science

Data Science is an interrelated field which includes subjects from Computer Science, Mathematics, Artificial Intelligence and Analytics field. Below we have mentioned the major BSc Data Science subjects included in its course curriculum, along with a separate list of elective courses.

**BSc Data Science Subjects**

| | |
|---|---|
| Applied Statistics | Artifical Intelligence |
| Discrete Mathematics | Cloud Computing |
| Data Structures and Program Design using C | Data Visualization |
| Probability and Inferential Statistics | Programming in R |
| Database Management System | Data Warehousing and Multidimensional Modelling |
| Machine Learning | Programming in Python |

# BSc Honours (Data Science) Jobs and Career Options

Data Science is considered one of the top 50 trendiest jobs in the world. Therefore, today is the right time to pursue this specialized course teaching you various aspects of data collection, data extractions, data analyses, data mining, data visualization, etc across diverse sectors of business, healthcare, logistics, banking and others.

- According to LinkedIn, Data Science is the **future of business** and **e-commerce world**.
- You not only can earn a **higher salary** and get a **stable career**, but you can also explore and learn different techniques and technologies involved in the process.
- Most of the engineers these days want to learn the basics of data science to learn and **apply analysis in different types of data** and **extract valuable information** from it.
- Around **40% increase** in jobs have in data science from 2017 to 2019, and it is expected to increase in this rate, creating more than **2 Lakhs** job opportunities by the year 2021.

The following table shows some of the major job positions you can get after completing this course.

Have a look below:

| | | |
|---|---|---|
| **Data Scientist** | A Data Scientist has a major role to play in a Business or solving a problem. Their main role is to provide insightful information and values from a certain set of data after carefully going through the major steps of data science, and suggesting solutions to those problems or doubts. | INR 8.2 LPA |
| **Process Analyst** | A process Analyst is an important part of the IT team where he/she analyze the business processes and workflows in order to understand the business pattern and make sure that how these can be automated or increased. | INR 4.3 LPA |
| **Data Solutions Analyst** | Data Solutions Analyst usually maintain client-specific data along with useful reports with respect to company policies and procedures. They gather and collect information from the clients, maintain the data warehouse, follow the automated report production process and provide recommendations in case of any negative outcome or result. | INR 11.51 LPA |
| **Business Analyst** | A Business Analyst is supposed to analyze the business-related data and provide help in decision making with respect to many new business trends from the technical point of view. | INR 6 LPA |
| **Statistical Analyst** | A Statistical Analyst is responsible for collecting, reviewing and extracting valuable information from the data which will further help Business Analysts and Data Scientists in the real-time decision making process. | INR 6.02 LPA |
| **Web & Social Media Analyst** | Web & Social Media Analyst is responsible for the evaluation and analyzing user engagement with the help of various software and data structure tools. | INR 3.3 LPA |
| **CRM Analyst** | They are responsible for the evaluation of the client-related data provided internally or externally to know their behavior, their pattern and extracting insightful information from it which will help to maintain the relationship with clients by understanding their problem and resolving them on a macro scale. | INR 4.5 LPA |
| **Business Intelligence Analyst** | BI Analyst is responsible for transforming a large set of data into valuable information that will hold a business value. They analyse the latest trends and help make the business grow in a smarter and in a much efficient way. | INR 5.8 LPA |
| **Data Architect** | A Data Architect is responsible for everything about the company data. They maintain the solid structural database of the company containing all the necessary information. They create database solutions, evaluate requirements and prepare reports. | INR 19.3 LPA |

| | | |
|---|---|---|
| **Data Mining Engineer** | Data Mining Engineer is responsible for creating and enhancing the statistical and predictive data and models and algorithms to analyse a large set of data. | INR 6.1 LPA |
| **Database Administrator** | A DB Administrator is responsible for planning, installing, designing, migrating, monitoring the data by using different software and tools. | INR 4.97 LPA |

# BSc Honours (Data Science) Future Scope

Data Science is a promising subject in the field of Computer and Information Science. Many foreign companies and national companies are investing in millions in the IT sector in India.

After US, India is expected to be a specialized market for Data Scientists across the globe. This course is not only valuable in India but across the globe. The National Average Salary for Data Scientist is around **INR 11,48,252** and International Average Salary is around **USD 113,436** according to Glassdoor, which means you can easily satisfy your need for career growth and stability.

Apart from diverse career options which we have already discussed above, here we shall discuss what can you do after completing your BSc Data Science course.

- **Higher Education**:

You can go for higher studies in this advanced field to gain expertise and knowledge in various data science field. You can become study a specialization also like data analytics or business analytics as per your career need. You can pursue Master of Science in these specializations:

| MSc Data Analytics | MSc Software Engineering | MSc Computer Science |
|---|---|---|
| MSc Statistics | MSc Cyber Security | Master of Computer Applications |

If you are interested in pursuing a managerial role in this domain then you can pursue Master of Business Administration (MBA) as well in specializations such as:

| MBA Business Analytics | MBA E-Business |
|---|---|
| MBA Data Analytics | MBA IT |

- **International Opportunities**:

US is considered the IT hub of the world, and the scope of Data Science is enormous and growing rapidly. There is a huge need for skillful data scientists across the world. Therefore, after gaining ample experience in various project work, you can be considered for diverse international projects in marketing, healthcare, banking and other areas.

You can be hired for different roles like Team Lead, Project Lead or on a manager position. Major international companies like Amazon, Cognizant, Deloitte, Publicis Sapient, E&Y, among others send skilful professionals to US, Canada, Germany and other countries. After gaining experience in handling projects at a large scale, you can have the opportunity to grow your career in these technologically advanced countries.

# BSc Honours (Data Science) Admission Process

Admissions to **BSc Honours (Data Science)** are done on the basis of merit. The government of Andhra Pradesh notifies the admission process and asks registration for convener quota of 70 seats. The remaining 30 seats will be in management quota. For management quota consult the college office or use chat bot for enquiry.

# BSc Honours (Data Science) Eligibility

Students who wish to pursue BSc Honours (Data Science) courses should fulfil the following eligibility criteria in order to get through colleges offering **BSc Honours (Data Science)** course,

- Students should clear class 12th board exams.
- They should clear their class 12th board exams from a recognized board

Advanced Statistics/Data Analytics