

Graphic Era (Deemed to be University) Dehradun
Department of Management Studies
Executive Development Program
(Post Graduate Diploma in Data Science)



COURSE OVERVIEW

- Duration: 12 Months
- Category: Data Science.
- Course Fee: 1.25 lacs

PROGRAM DETAILS:

Data scientist is one of the best suited professions to thrive in the world. Therefore, it comes as no surprise that the demand for data scientists has been surging in the job marketplace. However, supply has been very limited. It is difficult to acquire the skills necessary to be hired as a data scientist and how can you do that? Universities have been slow at creating specialized data science programs. (Not to mention that the ones that exist are very expensive and time consuming). Most online courses focus on a specific topic, and it is difficult to understand how the skill they teach fit in the complete picture. Data science is a multidisciplinary field. It encompasses a wide range of topics. Understanding of the data science field and the type of analysis carried out in some of the following area,

- Mathematics
- Statistics
- Python
- Applying advanced statistical techniques in Python
- Data Visualization
- Machine Learning
- Deep Learning

Each of these topics builds on the previous ones and you risk getting lost along the way if you don't acquire these skills in the right order. For example, one would struggle in the application of Machine Learning techniques before understanding the underlying Mathematics. Or it can be overwhelming to study regression analysis in Python before knowing what a regression is. So, to create the most effective, time-efficient, and structured

data science program, we introduce “Name of the Program”. We believe this is the program that solves the biggest challenge to entering the data science field – having all the necessary resources in one place. Moreover, our focus is to teach topics that flow smoothly and complement each other. The course teaches you everything you need to know to become a data scientist at a fraction of the cost of traditional programs (not to mention the amount of time you will save).

PROGRAMME CONTENT

Module 1. Intro to Data and Data Science

Big data, business intelligence, business analytics, machine learning and artificial intelligence. We know these buzzwords belong in the field of data science but what do they all mean? As a candidate data scientist, you must understand the ins and outs of each of these areas and recognise the appropriate approach to solving a problem. This ‘Intro to data and data science’ will give you a comprehensive look at all these buzzwords and where they fit in the realm of data science.

Module 2. Mathematics

Learning the tools is the first step to doing data science. You must first see the big picture to then examine the parts in detail. We take a detailed look specifically at calculus and linear algebra as they are the subfields data science relies on.

Module 3. Statistics

You need to think like a scientist before you can become a scientist. Statistics trains your mind to frame problems as hypotheses and gives you techniques to test these hypotheses, just like a scientist.

Module 4. Python

Python is a relatively new programming language, and, unlike R, it is a general-purpose programming language. You can do anything with it! Web applications, computer games and data science are among many of its capabilities. That’s why, in a short space of time, it has managed to disrupt many disciplines. Extremely powerful libraries have been developed to enable data manipulation, transformation, and visualisation. Where Python really shines however, is when it deals with machine and deep learning.

Module 5. Tableau

Data scientists don't just need to deal with data and solve data driven problems. They also need to convince company executives of the right decisions to make. These executives may not be well versed in data science, so the data scientist must but be able to present and visualise the data's story in a way they will understand. That's where Tableau comes in – and we will help you become an expert storyteller using the leading visualisation software in business intelligence and data science.

Module 6. Advanced Statistics

Regressions, clustering, and factor analysis are all disciplines that were invented before machine learning. However, now these statistical methods are all performed through machine learning to provide predictions with unparalleled accuracy. This section will look at these techniques in detail.

Module 7. Machine Learning

The final part of the program and what every section has been leading up to is deep learning. Being able to employ machine and deep learning in their work is what often separates a data scientist from a data analyst. This section covers all common machine learning techniques and deep learning methods with TensorFlow.

Programme Highlights

- Program provides the entire toolbox you need to become a data scientist.
- Understand the mathematics behind Machine Learning (an absolute must which other courses don't teach!)
- Campus immersion module of 5 days
- Three-hour sessions held once a week by guest faculty.
- Unique blend of multidisciplinary subjects
- GEU Dehradun Executive Alumni status

Programme Details

PEDAGOGY

The teaching approach will be highly interactive and deploy diverse pedagogical tools and techniques including lectures with practical, solving real world problems, and general discussions. In order to provide greater industry insights, practitioners would also be invited to share their experiences.

KEY LEARNING OUTCOMES

After completing this programme, the participants should be able to:

- Learn how to pre-process data.
- Learn how to use Python for statistical analysis.
- Be able to create Machine Learning algorithms in Python, using NumPy, stats models and scikit-learn
- Use state-of-the-art Deep Learning frameworks such as Google's TensorFlow
Develop a business intuition while coding and solving tasks with big data.
- Improve Machine Learning algorithms by studying underfitting, overfitting, training, validation, n-fold cross validation, testing, and how hyperparameters could improve performance.

PROGRAMME DELIVERY/COURSE PEDAGOGY

Sessions will be conducted via a state-of-the-art Interactive Learning (IL) platform and delivered in Direct-to-Device (D2D) mode that can be accessed by learners on their Desktop, Laptop, Tablet or Smartphone. Participants will be provided reading materials, etc., for each course. They may also interact with the concerned faculty through e-mails/chat mode.

WHO SHOULD ATTEND?

- Middle and top-level managers with at least seven years of work / industry experience.
- Computing background is not necessary.

ELIGIBILITY CRITERIA

- Bachelor's degree (10+2+3 or 10+2+4) or equivalent; or 2-year master's degree or its equivalent from institutions or universities recognised by UGC/AICTE/AIU/DEB
- Candidates should have 50% or higher in graduation to be eligible. Marks for all (3 or 4) years to be included for calculating graduation percentage.
- Those candidates who have less than 50% marks in graduation but have more than 50% marks in post-graduation (from a recognised university) are also eligible for the programme.
- Candidates should be working at the time of filling the application form.
- Candidates should have a minimum of three (3) years of full-time paid experience at the time of application. This should be after the graduation degree/qualifying degree is complete.
- Participants will be selected based on their overall profile.
- Select applicants may be interviewed by Program Directors, if required.

*Internships and Training Experiences will not be considered in full time work-experience

ASSESSMENT

A minimum of 75% attendance to the LIVE lectures is a prerequisite for the successful completion of this program. There will be periodic evaluations built in throughout the duration of the course. These may be in the form of a quiz, experiential assignment, project, case studies or other objective/subjective assessments. The evaluations are designed ensure continuous participant engagement with the course and encourage learning. The main objective of the assignment and projects will be to help participants apply their conceptual learning from the programme to actual organizational decision-making scenarios. Passing qualification for the program will be based on (a) attendance requirement (b) mandatory number of experiential assignment submissions and (c) project submission. Participants who successfully complete the same will be awarded a certificate of completion by GEU. Participants who are unable to clear the evaluation criteria but have the requisite attendance will be awarded a participation certificate by GEU.

