

Data Analytics Certification Program – Student Manual

Student manual is designed to share details of program policy and describe the student learning journey. All students are expected to read through this manual thoroughly and adhere to the policies mentioned. Adhering to these policies will ensure the effective program delivery and optimal learning experience.

In case you have any questions, please feel free to reach out to your upGrad Buddy immediately. Contact details of upGrad buddy are mentioned in the escalation matrix section of the student manual.

Program Structure

The program is divided into 8 main milestones (Version Control using Git and GitHub, Maths and Stats Foundations, Excel, SQL, Python, Tableau, Power BI);

Module	Weeks	Synopsis	Topics
Git and GitHub Essentials (1 week)	1	Build your foundation from the ground up with the Basecamp milestone. Gain critical and valuable knowledge and skills, both conceptual and practical, and get set to embrace technologies and workflows that follow.	i. Introduction to Version Control with Git
			ii. Git from the Command Line
			iii. Everyday Git Commands
			iv. Git for collaboration
Maths and Statistics Foundations (2 weeks)	1-3	The first step to becoming a proficient data analyst is the mastery of math and statistics. This milestone will help you understand the fundamental concepts of math and stats. A solid foundation in these concepts will help you gain meaningful insights from data.	i. Probability
			ii. Statistics
			iii. Linear Algebra
			iv. Calculus
Data Analysis with Excel (1 week)	3-4	This milestone is aimed at making you a pro in data analysis using SQL and Python. Start your data analysis journey with Excel and learn how to perform basic and advanced analysis using Excel	i. Data Cleaning and Preparing
			ii. PivotTable and Grouping for Data Analysis
			iii. Scenario and Sensitivity Analysis
			iv. Lookup Functions and Merging Techniques
			v. Charts and Visualization Techniques
			vi. Data Analysis ToolPak for Statistics
Data Analysis using SQL (2 weeks)	5-6	The first step to becoming a proficient data analyst is the mastery of math and statistics. This milestone will help you understand the fundamental concepts of math and stats. A solid foundation in these concepts will help you gain meaningful insights from data.	i. What is SQL and Why is it Important?
			ii. SQL Database Admin Commands
			iii. The Basics of SQL
			iv. Filtering Data Using WHERE Clause in SQL
			v. Aggregation and Summary Functions in SQL
			vi. Miscellaneous Analysis in SQL
			vii. Table to Table Relationship in SQL
			viii. Combining Tables
			ix. Advanced SQL Data Analysis
			x. Making Efficient Analysis
Python for Data Analytics (2 week)	7-8	Get started on your Python learning journey with this milestone, aimed at helping learners understand Python through in-depth theory and practical lessons. Create powerful visuals and masterful data stories to solve complex business problems	i. Introduction to Python
			ii. Code and Data
			iii. Building Blocks
			iv. Strings
			v. Data Structures
			vi. Flow Control

			vii.Functions
			viii.Modules
			ix.Files
			x.NumPy
			xi.Pandas
			xii.Regular Expression
			xiii.Visualization
Advanced Data Analysis with Python (2 weeks)	9-10	Once you are set up with the essentials of Python, it's time to move on to Advanced Data Analysis using Python. By the end of this milestone, you would have mastered data analysis using Python to get meaningful insights from data. You will also learn how to perform EDA using Python	i. Exploratory Data Analysis in Python
			ii. Confirmatory Data Analysis in Python
			iii. Intermediate pandas
			iv.Unstructured Data in Python
			v.Working with APIs in Python
			vi.Parallel Computing with Dask
			vii.Intermediate Seaborn
			viii.Interactive Visualizations with Plotly and Bokeh
Data Visualization using Tableau (2 week)	11-12	This milestone will help you become a Tableau proficient by allowing you to explore, experiment with, fix, prepare, and present data easily, quickly, and beautifully. A strong theoretical foundation backed by in-depth hands-on practical will make you an expert Tableau user who can analyze and visually present data with ease	i. Introduction to Data Visualization and Tableau
			ii.Understanding Tableau Building Blocks
			iii.Managing Data connections
			iv.Prepare Data for use
			v.Basic Data Visualization
			vi.Advanced Data Visualization
			vii.Slicing and Dicing Data
			viii.Tableau Basic Calculations
			ix.Tableau Advanced Calculations
			x.Formatting
			xi.Dashboard Designing
			xii.Publishing and Sharing
Power BI + Capstone (1 week)	13	This milestone will empower you to become a proficient Power BI user, enabling you to seamlessly analyze, visualize, and share data. With a solid theoretical understanding and extensive practical experience, you'll develop expertise in leveraging Power BI's robust capabilities to extract insights and create visually stunning data presentations effortlessly. Start with introduction to visualizations and Tableau	i. Introduction to Data Visualization with Power BI Tell a Story with Your Data - Learn to Visualize Effectively
			ii. Data Transformation - The Query Editor
			iii. Tell a Story with Your Data - Learn to Visualize Effectively
			iv. Power BI and Python

The program will be delivered through a series of training lectures spanning over ~13 weeks.

Phase/Milestone	Session no	Day	Session Type	Duration	Timings
Orientation	1	Friday	Orientation	1 Hr	19:00 - 20:00(Asia/Kolkata)
Version Control using Git and GitHub	2	Saturday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
Maths and Stats Foundations	3	Sunday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	4	Saturday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	5	Sunday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	6	Saturday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
Data Analysis with Excel	7	Sunday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	8	Saturday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	9	Sunday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
Data Analysis using SQL	10	Saturday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	11	Sunday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	12	Saturday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	13	Sunday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
Python for Data Analytics	14	Saturday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	15	Sunday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	16	Saturday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	17	Sunday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
Advanced Data Analysis with Python	18	Saturday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	19	Sunday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	20	Saturday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	21	Sunday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
Data Visualization using Tableau	22	Saturday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	23	Sunday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	24	Saturday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)
	25	Sunday	Training Session	4 Hrs	10:00 - 14:00(Asia/Kolkata)

Power BI Masterclass	26	Saturday	Training Session	3 Hrs	10:00 - 13:00(Asia/Kolkata)
Capstone Project	27	Sunday	Training Session	2 Hrs	10:00 - 12:00(Asia/Kolkata)

Academic Doubt Solving Sessions:

Academic Doubts	Weekday Teaching Assistants doubts sessions (Mon-Fri) - 9 p.m - 10 p.m	Link to join the session: https://live.upgradcampus.com/ilc/vc/c/QUrc
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A detailed calendar** for the class schedule will be available on our learning experience platform - PRISM.

It is highly recommended that you attend all the sessions to attain the best out of this program.

***Calendar is subject to change as per the requirements; however, that will be communicated to the learners in advance.*

Program Assessment Policy

The Data Analytics certification program comprises the following types of graded components (with their corresponding weights):

Table 2 – Program Assessment Components

Gradable Assessment Type	Details	Weightage (%)	Frequency
Weekly Assessments	These multiple-choice based assessments would be available every week and would map to the content being covered in the week's learning agenda.	10%	Every Week
Assignments	These are practice exercises that will appear across the program. Depending on the nature of the assignment, it may be auto-graded by the system or may involve evaluation by an expert evaluator.	15 %	Across the program
Hands-On and Mini Projects	These are small, self-contained projects that allow learners to apply data analytics techniques and concepts to a real-world problem or dataset.	10%	Every Module
Mock Interviews	The program includes two mock interviews conducted 1-1 by professionals to gauge a learner's abilities, communication skills, and overall persona. The outcome of these interactions would be shared as feedback.	15 %	2 Mock Interviews (At the end of the program)
Capstone Project	At the end of the program, the learner needs to build and submit an end-to-end Data solution. This would be graded by a professional evaluator.	30 %	1 Capstone Project at the end of the program
Employability (Interview Prep) Tests	These tests are designed to evaluate overall skills mapped to specific job roles.	20 %	1 employability test at the end of the program

Sessions and Weekly Rigour

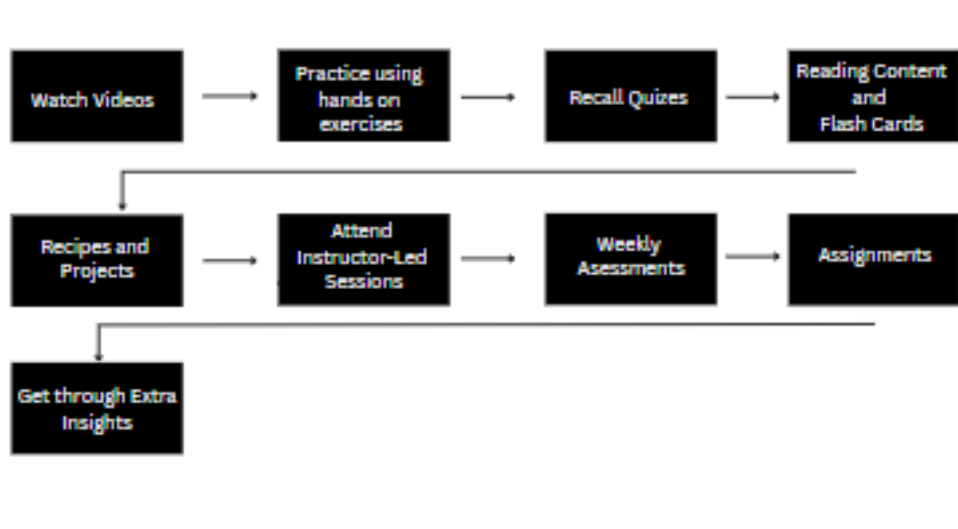
The program is divided into milestones and each milestone is spread over a couple of weeks. This spread can be seen in your learner account on the PRISM learning experience platform. All sessions will be delivered in English and learners must join the session only through their laptop using their registered email address. No change in the email address will be allowed after the course starts.

Weekly Rigour

This program is presented in a blended mode which involves a mix of self-learning content available on the PRISM learning platform and instructor-led sessions which would be conducted every week. On PRISM, the program is presented as a series of milestones, each of which is divided into weeks. You must focus on the current week and ensure completion of the listed learning, practice, and assessment tasks, in addition to attending the sessions as per the calendar, the details of which are listed below.

Every week, begin by watching the videos and other learning material curated for that week. Work through the cloud-lab-enabled hands-on exercises where applicable to get maximum practice and use recall quizzes to strengthen your concepts. From time to time, we will incrementally curate short recipes and projects across the program, as an ongoing exercise. Once you've learned and practiced, you are required to complete the week's assessments and other gradable tasks as listed in the week. Please read the details in the next section.

Along with self-learning, you are required to attend training sessions.



Training Sessions

Every week, training sessions will be conducted by expert instructors as per the schedule available in your PRISM account.

- **Training Sessions:** These sessions would cover critical knowledge, workflows, best practices, and professional guidance on weekly topics. They're an important part of your program and are thus mandatory to attend. These sessions would be 4 hours as per the topic/milestone.

During the course, if we encounter any session cancellation due to unforeseen circumstances, we will schedule extra sessions, as per the curriculum completion requirement. Usually conducted on the weekend and learners are expected to attend and actively participate in these sessions.

The schedule for these training sessions will be communicated to you separately and will be available on PRISM as well.

In case you're not able to attend a session due to prior commitments, a recording of the session will be provided to you and uploaded on the PRISM platform! However, we highly recommend that you attend all the training sessions, and ask your doubts on a real-time basis in the sessions.

Assessments, Assignments, and Projects

Assessments

Every week, you will get up to two assessments in your weekly learning agenda on PRISM. These assessments cover topics covered within the week in the form of MCQ and MMCQ style questions and are mandatory.

Overall, you will get up to 2 attempts at every assessment and you must score an average of 70% or higher across all assessments, as part of the exit criteria.

Assignments and Topic-Level Projects

The program curriculum includes several assignments and micro-projects designed to give a practical experience to learners using the PRISM learning experience platform. These are also added incrementally to the program, from time to time as we continually enhance the curriculum. They are like micro-projects where you are given a problem statement and resources to begin the exercise and you are required to produce and submit a solution. In some cases, these assets may also include a guided video/readable content that explains the step-by-step process required to achieve the desired result. The students will have ample time to go through the modules and assignments/projects.

While the terms may be used interchangeably depending on the problem statement/task, an assignment or a project is essentially a gradable asset, and an attempt would produce a score that would count towards your program end score. All assignments/projects are mandatory, in the same way as assessments, and are critical to program completion and the exit criteria.

The program includes two kinds of assignments/projects:

- a. **Auto-graded assignments:** These assignments are to be attempted online using the PRISM cloud labs coding environment. Once the assignment is submitted, it is instantly evaluated using built-in tests, and the results are shared instantly. These assignments cannot be manually graded and the outcome is dependent on your adherence and attention to the problem statement and the task at hand.
- b. **Manually Graded assignments:** These assignments are to be attempted online using the PRISM cloud labs coding environment. Once the assignment is submitted, it is manually evaluated by the evaluator.

Scores & Attempts

Assignments and topic-level projects contribute towards your program end score and are also a measure of your ability to implement your learnings in practical situations. Therefore, you are required to score $\geq 70\%$ on every assignment/project.

Assistance

Assignments/Projects are gradable hence we will not be able to provide support in formulating a solution. You may however request assistance if you're facing technical issues such as with the cloud labs and/or with provided resources. In such a case, please raise a ticket or reach out to your upGrad Buddy.

Mini Projects

After every module there are a few mini projects to be worked on. You will get 1 attempt to complete this project. This needs to be completed within the time frame. Once completing the mini projects only, you will be eligible to attempt the Capstone project.

Program-end Capstone Project

Towards the end of the program, you are required to work on a Data Analytics project which needs to be submitted as the capstone. We will share ideas, outlines, and other documentation, for you to get started with the project. A designated guide/mentor would also be available for overall guidance over a series of pre-designated sessions. Details regarding the capstone project would be shared toward the end of the program. Once submitted, the projects shall be evaluated within 2 - 3 weeks, and a report would be shared with the learner.

Exit Criteria

You will be eligible to earn a certificate of completion showing that you have successfully completed the program if and only if you meet the Exit Criteria. This Certificate will be issued by upGrad-KnowledgeHut.

Following are the factors contributing to the Exit Criteria:

- 1. $\geq 80\%$ Attendance in the Training Session:**
 - a. This includes weekly training sessions.
- 2. $\geq 90\%$ Program Completion:**
 - a. This includes all weekly learning and practice tasks on PRISM such as videos, hands-on exercises, projects, and reading content.
- 3. $\geq 70\%$ score in all gradable assets & 100% attempt in all assessments**
- 4. $\geq 60\%$ score in Projects:**
 - a. This includes each project at the end of each course as well as the Capstone Project.
 - b. Mandatory submission of Capstone Project.
 - c. **Capstone Project to be submitted for evaluation on or before 30 days from the course completion date. No further extension will be granted.**

NOTE:

- Only after successful completion of the course, you will be eligible for Interview Preparation & Opportunities for India ONLY
- Program policy details are mentioned in the offer letter, which is shared to you via email during the enrollment process.

Code of Conduct

As per the **Code of Conduct**, academic dishonesty and plagiarism, in any form, for any graded component or evaluation is not acceptable.

Learners are not allowed to request or share solutions for any graded component of the program on any platform. Any violation of this policy will result in zero score for that particular graded component. If a learner is found to violate this policy for a second time, upGrad will decide on the necessary disciplinary action to be taken.

Further, any form of plagiarism and impersonation, including learners presenting others' work as their own, sharing solutions with each other, copying codes from public repositories, will not be accepted. Submissions by learners will be subject to plagiarism checks to ensure compliance with this policy. Learners may also face random vivas by the concerned experts to ensure that submissions have been created by the learner.

Please note that upGrad has the final authority to decide upon the disciplinary action to be taken in case of plagiarism and impersonation.

Similarly, learner misbehavior on any online or offline forums will not be accepted. In case such misbehavior is noted, the learner may have to face appropriate disciplinary action.

Students are expected to restrict the emails only to the escalation IDs shared in this student manual or communicated separately while raising any query, concerns or grievance. Please refrain from sending any mass mailers while sending emails to the upGrad team.

upGrad does not tolerate any form of bullying and/ or harassment including but not limited to sexual harassment. If we are notified of any act of harassment committed by a learner towards co-learners or upGrad's representative, such learner shall have to face strict consequences, which shall be taken at the sole discretion of upGrad.

upGrad reserves the right to take strict action against any student indulging in mass mailers.

Peer-to-Peer Participation & Discussion Forum – Guidelines

The PRISM learning experience platform includes a section named 'Discussion' where learners can engage in peer-to-peer discussions and support. This forum is meant for academic queries, discussing project ideas and other program-related topics only where your peers can provide feedback and support.

We do not recommend this for active learning support as it is purely a peer-to-peer discussion feature. For active learning support, please see the next section on 'Getting Support'.

For any non-academic doubts and/or technical issues with PRISM, please raise a support ticket or reach out to your learning advisors as explained below.

Note: Currently the Peer-to-Peer Participation & Discussion Forum feature is being revamped, we will be sharing you an update once the development is completed, you can reach out to your buddy if you need any other assistance.

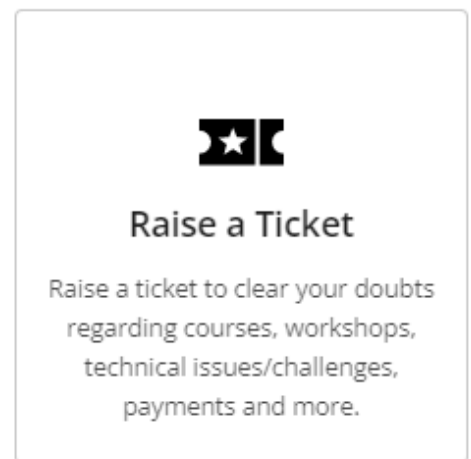
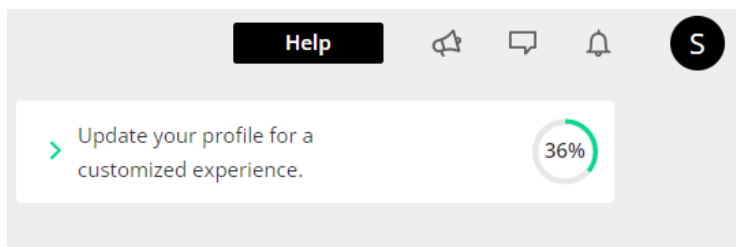
Getting Support

Learning and Academic Support

This program is presented in a blended learning model where you do not have to rely entirely on the instructor sessions for learning. Your program on the PRISM platform comes with hundreds of hours of self-learning content that we have curated across multiple weeks. As explained in the section on the weekly rigor, you have to consume the learning content every week on the platform, and practice using the cloud-lab-enabled hands-on exercises, before attending the weekly training sessions.

However, there may be times when you may need an additional helping hand to solve your queries across the week. We, therefore, have a team of qualified Teaching Assistants (TAs) available to resolve your queries. To avail their support, simply drop your query by using the following process:

1. On your PRISM dashboard, click on the Help button at the top right corner of your screen.



2. Select the type of support and type in your query.
3. You may also attach screenshots, code files, etc.

Once received, our TA team will respond back in a maximum time frame of 24-48 hours from receipt of the query.

General Support

You may additionally use the ticket system for submitting queries related to cloud labs, content, career and placement and other categories and we'll ensure prompt redressal. In an unlikely situation where you've not received support on time, please reach out to your upGrad Buddy for priority support by writing to bootcamp-help@upgrad.com.

Escalation Matrix

upGrad believes in adopting a transparent approach with all its learners, and in order to match our learners' expectations in terms of grievance redressal, we have created an Escalation Matrix. Based on the kind of queries we receive from our learners, we have defined the levels of the Escalation Matrix. We request you to refer to the same in case you ever find the need to escalate an issue.

Type of Query	Point of Contact	TAT
Academic-related issues/queries - 1. Assessment / Assignment issues 2. Doubts / Topic clarity 3. Queries pertaining to the content on a session page 4. Capstone doubts	Raise a ticket through the learning platform PRISM. Click on "Help" and select the category "Academic Doubt"	First Response within 24 - 48 Hrs (Working Hours) Working Hours: Mon - Fri (10 AM - 7 PM IST)
Non-academic queries - 1. Session Issues 2. program structure-related queries 3. Fees receipts/invoice 4. Deferral Requests or Batch Change 5. Profile updation like the name change, contact number & email ID change etc.. 6. Payment issues 7. Delivery Issues outside of PRISM activities like capstone evaluation etc.	Ticket through PRISM or write to bootcamp-help@upgrad.com & bhubaneswari.p@upgrad.com WhatsApp Number: +91-9538185550 Please drop a message on WhatsApp with your registered email and query and you will receive a call.	First Response within 24 Hrs (Working Hours) Working Hours: Mon - Fri (10 AM - 7 PM IST)
Connect with your upgrad buddy - Course / Program-related queries	Schedule a planned interaction with your upGrad buddy. Select time slot from the below calendar link to schedule a 15-minute connect - Link	Working Hours: Mon - Fri (3 PM - 5 PM IST)
Refund related queries	bootcamp-refunds@upgrad.com and bhubaneswari.p@upgrad.com	First Response within 24 Hrs (Working Hours) Working Hours: Mon - Fri (10 AM - 7 PM IST)
Not satisfied with the resolution provided by your upGrad buddy? Write to us with your ticket details to:	bootcamp-escalation@upgrad.com	First Response 24 Hrs (Working Hours) Working Hours: Mon - Fri (10 AM - 7 PM IST)
Weekend Support - For training Issues, Login issues, Non-Academic queries	Ticket through PRISM or write to bootcamp-help@upgrad.com	First Response within 24 Hrs (Working Hours) Working Hours: Sat-Sun (10 AM - 7 PM IST)
Academic Doubts - 1. Assessment / Assignment Doubts 2. Capstone related doubts	Weekday TA sessions (Mon-Fri-9pm-10pm) (IST)	Within the session duration. https://live.upgradcampus.com/ilc/vc/c/QUrc

Connect with your UpGrad Buddy over the Whatsapp for urgent issues - +91-9538185550

Do's & Don'ts for the connect with your UpGrad Buddy -

Serial No	Queries	Do's	Don'ts
1	Details needed before reaching out.	Always mention your email ID and Batch start date while asking your query.	Do not text or reach out from unregistered numbers.
2	Session related / login issues.	Drop a message on WhatsApp regarding your login and sessions related issues.	Do not call/message for academic queries or any queries which require some information/screenshots to resolve the issue. Raise a ticket for the same.
3	Availability	Always reach out between 5 PM- 8 PM by dropping a text on whats app.	Do Not call/ message during non working hours and public holidays.
4	Incoming/ Video calls.	Please drop a message on WhatsApp with your registered email and query and you will receive a call.	No incoming, whats app and video calls will be entertained.
5	Turn Around Time to address your queries	The TAT for any query raised will be 1 hour from the query raised.	Do not call in case you do not receive a reply immediately once the query is raised.