100 Days of Python Data Science & Data Engineering – Learning & Content Calendar

This document contains a 100-day learning and content-sharing plan for Python programming, focusing on data science and data engineering. It's structured to help you progress in skills while building an audience by sharing what you learn daily.

Learning Phases Overview

Phase 1 (Days 1–15): Python Fundamentals
Phase 2 (Days 16–35): Data Wrangling with Pandas & NumPy
Phase 3 (Days 36–55): Data Visualization & EDA
Phase 4 (Days 56–75): Data Engineering Concepts
Phase 5 (Days 76–90): Data Science & ML Basics
Phase 6 (Days 91–100): Final Project & Wrap-Up

100-Day Content Calendar

Day	Topic	Task & Learning Goal	Sharing Format
1	#100DaysOfCode Kickoff	Share your learning goals, tools you'll use (Python, Pandas, Jupyter, SQL), and why you're doing this.	Personal intro post + selfie/code photo
2	Python Variables & Data Types	Learn numbers, strings, booleans, lists, tuples, dicts. Show examples.	Code snippet + carousel
3	Python Operators & Expressions	Arithmetic, comparison, logical, assignment operators.	Short code examples

Content Creation Style Guide

1. Keep posts concise but clear: Aim for 100–250 words.
2. Always show a before/after or input/output example.
3. Use readable code formatting: syntax highlighting, clear variable names.
4. Use visuals: screenshots, diagrams, GIFs.
5. Engage your audience: Ask questions, invite them to try code.
6. Hashtags: Use relevant ones (#100DaysOfCode, #Python, #DataScience).

7. Posting Time: Share at consistent daily times for visibility.
8. Balance: Mix personal reflections with technical content.

Got it — you want a **100-day Python content calendar** tailored for a student who's learning **Python for data science & data engineering**, while also sharing progress online to complete the **#100DaysOfCode challenge**.

The key is to **learn → apply → share**, in a way that both builds skills and attracts an audience.
We'll use a **progressive learning structure**, split into phases:

1. **Days 1–15:** Python fundamentals & problem solving
2. **Days 16–35:** Data wrangling with Pandas, NumPy
3. **Days 36–55:** Data visualization & exploratory data analysis (EDA)
4. **Days 56–75:** Data engineering concepts (ETL, APIs, databases, pipelines)
5. **Days 76–90:** Data science mini-projects & machine learning basics
6. **Days 91–100:** Final big project + challenge wrap-up

We'll also **rotate presentation styles** to keep the audience engaged:

- **Code snippet post** (Twitter/LinkedIn short form, with explanation)
- **Mini-thread or carousel** (step-by-step guide)
- **Short video / screen recording** (showing process)
- **Blog post / long-form note** (weekly deep dive)
- **Visual diagram / infographic** (summarizing a concept)

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3	Python Operators & Expressions	Arithmetic, comparison, logical, assignment operators.	Short code examples
4	Control Flow: if, elif, else	Solve 3 small decision-based problems.	Thread showing each example
5	Loops: for & while	Show loop patterns for real-world tasks	Video screen

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		(e.g., looping over CSV rows).	recording
6	Functions	Write 3 custom functions (with parameters, default args, return values).	Code carousel
7	Python Error Handling	Try/except/finally, custom errors.	Infographic + code
8	List Comprehensions	Convert loops to one-liners, before/after comparison.	Split-screen code post
9	Working with Files	Read/write TXT, CSV, JSON files.	Code snippet thread
10	Python Modules & Imports	Using `math`, `random`, `datetime`. Create a custom module.	Carousel
11	Virtual Environments	Why & how to use `venv`/`conda`.	Screenshot tutorial
12	Python Package Management	Installing & using packages from PyPI.	Screen recording
13	Python & Dates	Working with `datetime`, formatting.	Code snippet
14	Python String Formatting	f-strings, `.format()`, `%` style.	Code carousel
15	Review Day	Recap top lessons from fundamentals.	Thread of key takeaways

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Phase 2 – Data Wrangling (Days 16–35)

Day	Topic	Task & Learning Goal	Sharing Format
16	Intro to NumPy	Arrays, array creation, basic operations.	Code carousel
17	NumPy Indexing & Slicing	Practical data extraction examples.	Thread
18	NumPy Aggregations	Mean, median, sum, std.	Code snippet

Day	Topic	Task & Learning Goal	Sharing Format
19	NumPy Broadcasting	Show math operations without loops.	Before/after video
20	Intro to Pandas	Series, DataFrame creation.	Code carousel
21	Pandas Data Import	Read CSV, Excel, JSON.	Screenshot + code
22	Pandas Data Cleaning	Handle NaN, duplicates.	Step-by-step carousel
23	Pandas Selection & Filtering	Boolean indexing.	Thread
24	Pandas Aggregation	`groupby`, `agg`.	Code snippet
25	Pandas Merging & Joining	Combine multiple datasets.	Video tutorial
26	Pandas Apply & Lambda	Transform data in one line.	Carousel
27	DateTime in Pandas	Parse and filter by date.	Code snippet
28	Sorting & Ranking	Real dataset example.	Code + dataset link
29	Reshaping Data	Melt, pivot_table.	Visual before/after
30	Pandas Performance Tips	`.loc` vs `.iloc`, vectorization.	Infographic
31	Pandas Project	Mini project cleaning messy CSV.	Video walk-through
32–35	Mini Challenge	Daily dataset challenges (Kaggle, Data.gov).	Each day post result

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Phase 3 – Visualization & EDA (Days 36–55)

Day	Topic	Task & Learning Goal	Sharing Format
36	Intro to Matplotlib	Simple line plot.	Code snippet
37	Matplotlib Styling	Colors, labels, titles.	Carousel
38	Bar & Pie Charts	Dataset example.	Code snippet

Day	Topic	Task & Learning Goal	Sharing Format
39	Scatter Plots	Correlation example.	Code snippet
40	Histograms & KDE	Distribution of data.	Carousel
41	Intro to Seaborn	Aesthetic plots.	Side-by-side
42	Seaborn Categorical Plots	Countplot, boxplot, violin.	Code snippet
43	Seaborn Heatmaps	Correlation matrices.	Code + image
44	Pairplot & Jointplot	EDA example.	Video
45	Plotly Basics	Interactive charts.	Screen recording
46–50	EDA Project	Analyze a dataset (sales, weather, etc.).	Daily progress posts
51–55	EDA Challenge	Share one visualization insight daily.	Carousel

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Phase 4 – Data Engineering (Days 56–75)

Day	Topic	Task & Learning Goal	Sharing Format
56	Intro to Data Engineering	Explain ETL with diagram.	Infographic
57	Reading APIs in Python	Use `requests` to fetch data.	Code snippet
58	Parsing JSON from API	Extract and clean API response.	Carousel
59	Scheduling Scripts	`cron`/Task Scheduler.	Screenshot tutorial
60	Writing to Databases	SQLite basics with `sqlite3`.	Code snippet
61	Reading from Databases	SQL queries with Python.	Thread
62	SQL Joins in Python	Pandas + SQL example.	Carousel
63	Data Pipeline Concept	Diagram + explanation.	Infographic

Day	Topic	Task & Learning Goal	Sharing Format
64	Automating CSV Processing	Script + cron job.	Video
65	Environment Variables	Secure API keys.	Screenshot tutorial
66–70	Pipeline Project	Build mini ETL from API → CSV → DB.	Daily progress
71–75	Data Engineering Tips	One per day (logging, monitoring, testing).	Thread

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Phase 5 – Data Science & ML (Days 76–90)

Day	Topic	Task & Learning Goal	Sharing Format
76	Intro to ML Concepts	Diagram + explanation.	Infographic
77	Scikit-learn Basics	Train-test split, fit/predict.	Code snippet
78	Linear Regression	Real dataset example.	Carousel
79	Classification Models	Logistic regression example.	Code snippet
80	Model Evaluation	Accuracy, precision, recall.	Infographic
81	Decision Trees	Visualization example.	Screenshot
82–85	Mini ML Project	Predict something simple.	Daily updates
86–90	ML Challenge	Share 1 model result daily.	Code + chart

Phase 6 – Final Project & Wrap-up (Days 91–100)

Day	Topic	Task & Learning Goal	Sharing Format
91–97	Final Project Build	Choose a full data science/data engineering project.	Daily updates
98	Project Presentation	Walkthrough video.	Video post

Day	Topic	Task & Learning Goal	Sharing Format
99	Key Lessons Learned	Reflection thread.	Thread
100	#100DaysOfCode Celebration	Thank audience + next steps.	Personal post

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If you want, I can **add a full "content creation style guide"** for each post so your student knows *exactly* how to write captions, format code, and pick visuals so their learning posts go viral while still keeping technical quality.

Do you want me to prepare that style guide next?