

DIGITAL INNOVATION AND TRANSFORMATION | COURSE BROCHURE

Python Programming for Data Analysis and Automation

5 days | Classroom training | English

SMART HORIZON

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Amsterdam
The Netherlands

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Course content

Why attend

Python is the most popular language for data analysis and automation. This beginner-friendly course teaches Python fundamentals, data analysis with pandas, data visualisation, automating repetitive tasks with files and spreadsheets, and simple use of APIs. Participants complete practical exercises based on business data.

Python skills allow you to analyse larger datasets and automate manual work. This course gives non-programmers a practical starting point.

Professional Problems This Course Is Designed to Solve

- Difficulty translating subject knowledge into practical workplace decisions.
- Inconsistent approaches to the activities covered in the course outline.
- Lack of a structured plan for applying and reviewing new skills.

Course methodology

The course is hands-on using notebooks, with step-by-step exercises, mini-projects and a capstone automation task. No prior programming experience is required.

Course objectives

By the end of this course, participants will be able to:

- Write basic Python programs
- Load, clean and analyse data with pandas
- Create charts with Python
- Automate spreadsheet and file tasks
- Use APIs to retrieve data
- Structure and document reusable scripts

Target audience

This course is suitable for:

- Business and data analysts
- Finance and operations professionals
- Researchers
- Engineers
- Professionals wanting to automate tasks



Course content

Target competencies

Participants will develop competencies in:

- Python fundamentals
- Data manipulation
- Data visualisation
- Task automation
- API use
- Script development

Course outline

Day 1: Python Fundamentals

09:00–09:54	Python environment and notebooks
09:54–10:48	Variables and data types
10:48–11:00	Control flow
11:00–11:30	**Coffee break**
11:30–12:12	Control flow (continued)
12:12–13:06	Functions
13:06–14:00	Lab: First scripts

Day 2: Data Analysis with pandas

09:00–09:54	DataFrames
09:54–10:48	Importing data
10:48–11:00	Cleaning and transforming
11:00–11:30	**Coffee break**
11:30–12:12	Cleaning and transforming (continued)
12:12–13:06	Grouping and summarising
13:06–14:00	Lab: Analysing sales data



Course content

Day 3: Visualisation

09:00–09:54	Charts with Python libraries
09:54–10:48	Customising charts
10:48–11:00	Exploratory analysis
11:00–11:30	**Coffee break**
11:30–12:12	Exploratory analysis (continued)
12:12–13:06	Exporting results
13:06–14:00	Lab: Building charts

Day 4: Automation

09:00–09:54	Working with files and folders
09:54–10:48	Automating Excel tasks
10:48–11:00	Email and report automation
11:00–11:30	**Coffee break**
11:30–12:12	Email and report automation (continued)
12:12–13:06	Scheduling scripts
13:06–14:00	Lab: Automating a report

Day 5: APIs and Good Practice

09:00–09:54	Calling APIs
09:54–10:48	Error handling
10:48–11:00	Code organisation
11:00–11:30	**Coffee break**
11:30–12:12	Code organisation (continued)
12:12–13:06	Next steps
13:06–14:00	Capstone: Automation project

The timings provided are estimates and may vary depending on the number of participants and the discussions taking place during the



Course content

sessions. They are indicative only and do not constitute a binding commitment.

Dates, venues and fees

Current published course plans. Fees are per participant in EUR, excluding unconfirmed taxes.

Venue	Start date	End date	Fee (EUR)
Kuala Lumpur Confirmed dates	16 Nov 2026	20 Nov 2026	**€1,450.–**
Online Confirmed dates	16 Nov 2026	20 Nov 2026	**€1,250.–**
Rome Confirmed dates	30 Nov 2026	4 Dec 2026	**€2,450.–**
Online Confirmed dates	30 Nov 2026	4 Dec 2026	**€1,250.–**
Paris Confirmed dates	7 Dec 2026	11 Dec 2026	**€2,860.–**
Online Confirmed dates	7 Dec 2026	11 Dec 2026	**€1,250.–**
Istanbul Confirmed dates	14 Dec 2026	18 Dec 2026	**€2,650.–**
Online Confirmed dates	14 Dec 2026	18 Dec 2026	**€1,250.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Amsterdam Confirmed dates	4 Jan 2027	8 Jan 2027	**€2,540.-**
Online Confirmed dates	4 Jan 2027	8 Jan 2027	**€1,250.-**
Singapore Confirmed dates	18 Jan 2027	22 Jan 2027	**€2,820.-**
Online Confirmed dates	18 Jan 2027	22 Jan 2027	**€1,250.-**
London Confirmed dates	1 Feb 2027	5 Feb 2027	**€2,450.-**
Online Confirmed dates	1 Feb 2027	5 Feb 2027	**€1,250.-**
Dubai Confirmed dates	15 Feb 2027	19 Feb 2027	**€3,150.-**
Online Confirmed dates	15 Feb 2027	19 Feb 2027	**€1,250.-**
Frankfurt Confirmed dates	1 Mar 2027	5 Mar 2027	**€2,650.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	1 Mar 2027	5 Mar 2027	**€1,250.–**
Cape Town Confirmed dates	8 Mar 2027	12 Mar 2027	**€1,890.–**
Online Confirmed dates	8 Mar 2027	12 Mar 2027	**€1,250.–**
Kuala Lumpur Confirmed dates	15 Mar 2027	19 Mar 2027	**€1,450.–**
Online Confirmed dates	15 Mar 2027	19 Mar 2027	**€1,250.–**
Paris Confirmed dates	5 Apr 2027	9 Apr 2027	**€2,860.–**
Online Confirmed dates	5 Apr 2027	9 Apr 2027	**€1,250.–**
Istanbul Confirmed dates	19 Apr 2027	23 Apr 2027	**€2,650.–**
Online Confirmed dates	19 Apr 2027	23 Apr 2027	**€1,250.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Amsterdam Confirmed dates	3 May 2027	7 May 2027	**€2,540.-**
Online Confirmed dates	3 May 2027	7 May 2027	**€1,250.-**
Vienna Confirmed dates	10 May 2027	14 May 2027	**€2,940.-**
Online Confirmed dates	10 May 2027	14 May 2027	**€1,250.-**
Singapore Confirmed dates	17 May 2027	21 May 2027	**€2,820.-**
Online Confirmed dates	17 May 2027	21 May 2027	**€1,250.-**
London Confirmed dates	7 Jun 2027	11 Jun 2027	**€2,450.-**
Online Confirmed dates	7 Jun 2027	11 Jun 2027	**€1,250.-**
Dubai Confirmed dates	21 Jun 2027	25 Jun 2027	**€3,150.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	21 Jun 2027	25 Jun 2027	**€1,250.-**
Rome Confirmed dates	28 Jun 2027	2 Jul 2027	**€2,450.-**
Online Confirmed dates	28 Jun 2027	2 Jul 2027	**€1,250.-**
Frankfurt Confirmed dates	5 Jul 2027	9 Jul 2027	**€2,650.-**
Online Confirmed dates	5 Jul 2027	9 Jul 2027	**€1,250.-**
Kuala Lumpur Confirmed dates	19 Jul 2027	23 Jul 2027	**€1,450.-**
Online Confirmed dates	19 Jul 2027	23 Jul 2027	**€1,250.-**
Paris Confirmed dates	2 Aug 2027	6 Aug 2027	**€2,860.-**
Online Confirmed dates	2 Aug 2027	6 Aug 2027	**€1,250.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Istanbul Confirmed dates	16 Aug 2027	20 Aug 2027	**€2,650.-**
Online Confirmed dates	16 Aug 2027	20 Aug 2027	**€1,250.-**
Cape Town Confirmed dates	30 Aug 2027	3 Sept 2027	**€1,890.-**
Online Confirmed dates	30 Aug 2027	3 Sept 2027	**€1,250.-**
Amsterdam Confirmed dates	6 Sept 2027	10 Sept 2027	**€2,540.-**
Online Confirmed dates	6 Sept 2027	10 Sept 2027	**€1,250.-**
Singapore Confirmed dates	20 Sept 2027	24 Sept 2027	**€2,820.-**
Online Confirmed dates	20 Sept 2027	24 Sept 2027	**€1,250.-**
London Confirmed dates	4 Oct 2027	8 Oct 2027	**€2,450.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	4 Oct 2027	8 Oct 2027	**€1,250.–**
Dubai Confirmed dates	18 Oct 2027	22 Oct 2027	**€3,150.–**
Online Confirmed dates	18 Oct 2027	22 Oct 2027	**€1,250.–**
Frankfurt Confirmed dates	1 Nov 2027	5 Nov 2027	**€2,650.–**
Online Confirmed dates	1 Nov 2027	5 Nov 2027	**€1,250.–**
Barcelona Confirmed dates	8 Nov 2027	12 Nov 2027	**€2,840.–**
Online Confirmed dates	8 Nov 2027	12 Nov 2027	**€1,250.–**
Kuala Lumpur Confirmed dates	15 Nov 2027	19 Nov 2027	**€1,450.–**
Online Confirmed dates	15 Nov 2027	19 Nov 2027	**€1,250.–**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Paris Confirmed dates	6 Dec 2027	10 Dec 2027	**€2,860.-**
Online Confirmed dates	6 Dec 2027	10 Dec 2027	**€1,250.-**
Istanbul Confirmed dates	13 Dec 2027	17 Dec 2027	**€2,650.-**
Online Confirmed dates	13 Dec 2027	17 Dec 2027	**€1,250.-**

Plan your next step

Dates, availability, exact venue, taxes, inclusions and payment terms require written confirmation. This brochure is not a quotation, registration, booking confirmation or visa invitation. Participants receive a Smart Horizon certificate of attendance; programmes are not externally accredited and do not award a professional qualification or designation. Confirm arrangements before booking travel.

For group or in-house training, contact our learning team to discuss your objectives and delivery arrangements.

Contact Smart Horizon

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View the latest course details online