

Data Analytics 101 – Foundations of Data-Driven Insight

OEM: Galvanize • Code: DATA_ANALYTICS_101_FOUNDATIONS_OF_DATA_D

COURSE DESCRIPTION

Data Analytics 101 introduces the end-to-end analytics workflow and teaches participants how to transform raw data into meaningful, decision-ready insights. Participants build the foundation to clean, analyze, and communicate findings that support operational and strategic decision-making.

AUDIENCE PROFILE

- Active duty service members
- Government civilians
- Reservists and national guard service members (must be on orders to attend)

PREREQUISITES

- A personal computer that is reasonably new (within the last 4-5 years)
- 16 GB RAM (8 GB acceptable, but not recommended)
- Mac or Windows OS
- Video/audio capable webcam (can be a separate webcam device)
- A reliable, strong internet connection

COURSE OBJECTIVES

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

- Frame analytical problems and prepare reliable data
- Analyze data using industry-standard tools
- Communicate insights through visualization and narrative

COURSE OUTLINE

Module 1: Frame analytical problems and prepare reliable data

- Develop an analytics mindset by asking the right questions before using tools. Ingest, clean, and structure real-world datasets, including CSVs, APIs, and tabular data, to ensure accuracy and reliability before analysis begins.

Module 2: Analyze data using industry-standard tools

- Use Python, pandas, and NumPy to filter, group, aggregate, and explore structured data, uncovering meaningful patterns and trends.

Module 3: Communicate insights through visualization and narrative

- Create clear, effective visualizations via Matplotlib and Seaborn, and translate findings into concise, decision-ready narratives that support operational and strategic decisions.

Module 4: Resulting Capability

- Participants complete the course with the ability to clean and structure datasets, perform exploratory analysis, create meaningful visualizations, and communicate insights that support operational decision-making across intelligence, cyber, operations, acquisition, and program management roles.