Training: Python Academy
# Numerical Calculations with NumPy

## TRAINING GOALS:

The library **NumPy** is the de facto standard for the work with arrays and linear algebra. It provides array processing capabilities comparable with MATLAB and offers a high-level tool for efficient and convenient work with numerical data.

## CONSPECT:

- Standard arrays and linear algebra library
- Array-constructions and array-properties in examples
- Speed comparison between dynamically determined Python data types with explicitly specified NumPy arrays
- Correspondence between NumPy and C data types
- Slicing and Broadcasting
  - Reading and writing to arbitrary parts of arrays
  - Applying broadcasting for arrays with different shapes
- Universal Functions
  - Applying many operations on whole arrays independent from their dimensions
  - Examples of use
- Numerical algebra.
- Working with missing values - masked and NA-masked arrays to handle arrays with missing or not valid values.
- Customizing error handling - NumPy offers a fine-grained approach to handle errors without impacting the performance.
- Testing support - NumPy includes helpers to write to test code - course introduces to testing basics with it.

## REQUIREMENTS:

- Basic knowledge of **Python** language.



Compendium Centrum Edukacyjne Spółka z o.o.
ul. Tatarska 5, 30-103 Kraków, tel.: (12) 298 47 77
ul. Postępu 18B, 02-676 Warszawa, tel.: (22) 417 41 70

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## Difficulty level



## CERTIFICATE:

The participants will obtain certificates signed by Python Academy.

## TRAINER:

Authorized Python Academy Trainer.



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