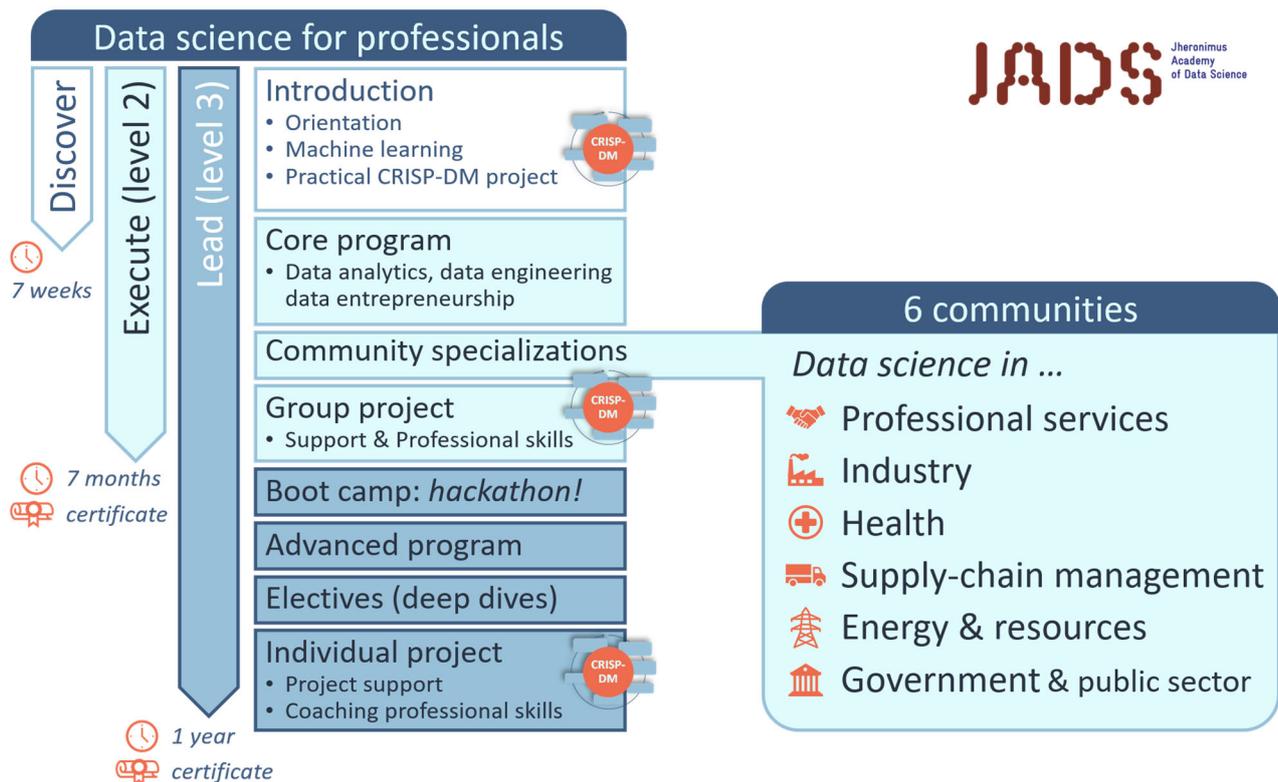


## Detailed program descriptions: *Execute*



### Execute Track

7 months (including Discover Track)

The Execute Track is intended to do as its name suggests: train students to execute a data-science project. The track is a combination of core modules and community-specific modules. Each community has their own project team and lecture days aimed at what's relevant for that particular community. Community Academic Directors will be specialized in the area where the participants work. Participants will work jointly in group projects, which are elaborate, challenging, and realistic.

#### Core program (6 days)

- Programming skills and data-science work environment (Python, Jupyter notebooks, Anaconda)
  - o The program recognizes that students' prior programming experience as well as their ambitions vary. Depending on entry levels, all students are expected to improve their programming skills, with a strong emphasis on practical skills as an enabler for later modules. Students practise their skills in an online learning environment.
- Project management, data entrepreneurship and leadership
- Decision making and decision quality
- Data engineering
  - o Structured versus unstructured data, relational databases, logical database design, SQL for data science
- Visualization
- Explainable AI
- Forecasting
- Deep learning
- Statistical learning: prediction, causal inference, and statistical inference

### Professional skills

- Professional communication: sharing and understanding thoughts, questions, ideas and solutions. Resulting in goal setting, presentation skills and pitching.

### Community specialization (5 days)

Depending on the community, the Community Academic Director will compose a tailor-made program, aimed to help participants to integrate data science in their work fields, organizations and personal careers.

Community-specific courses include:

- Ethics & law
- Data-driven service integration
- Data-driven healthcare
- Text mining and natural-language processing (NLP)
- Business analytics
- Forecasting, production planning and data-driven supply-chain management
- Marketing analytics
- Smart and predictive maintenance
- New business concepts driven by data and analytics
- Industry 4.0 and the role of data and AI

