DAY 1

Data Mining and Pattern Recognition

- Data Mining Process
- Data Preparation
- Association and Pattern Recognition
- Data Mining in Energy Industry
- Data Mining-clusters and Outliers

DAY 2

Artificial Intelligence Algorithms

- Artificial Intelligence Development
- Linear Regression
- Logistic Regression
- Decision Tree
- Support Vector Machine
- Other Algorithms Applied in Artificial Intelligence (AI)

DAY 3

Energy Distribution Planning and Optimization

- Energy Storage Planning
- Managing Incidents and Instrument Failures
- Energy Grid Management
- Energy Consumption Forecasting

DAY 4

Developing Digital Twins

- Digitization of Industry and Energy
- Optimal Power Flow Problem Formulation
- Neural Network Application to Optimal Power Flow
- Particle Swarm Optimization for Optimal Power Flow
- Total Transfer Capability Enhancement by Evolutionary Algorithm

DAY 5

Simulation, Machine Learning and Smart Contracts

- Dynamic Simulation of Industry Systems
- Simulation of Unit Commitment Problem
- Machine Learning for Renewable Energy
- Forecasting Renewable Energy Generation
- Smart Contracts within the Energy Industry