

Introduction to battery production and battery technology

OEM: Siemens • Code: BAT-PROD-1

COURSE DESCRIPTION

Batteries form the backbone of the energy transition – they are essential in electric vehicles, stationary energy storage systems, industrial plants and buildings. This course offers a comprehensive introduction to the world of batteries: you will learn how batteries work, how they are constructed and the technologies behind them.

In cooperation with RWTH Aachen University, the course provides the basic principles of battery technology as well as the most important production processes from material processing to the finished cell in a practical way.

The course is aimed at professionals who are looking for an introduction to the topic of batteries or who want to expand their knowledge in a targeted manner.

It is offered in a hybrid format and combines the benefits of in-person and online training to ensure maximum flexibility and learning success.

AUDIENCE PROFILE

- Technicians and engineers from the fields of production, development or energy technology
- Specialists and managers from the energy, automotive and electronics sectors
- Employees of start-ups, medium-sized companies or corporations related to energy storage solutions
- Project managers who plan and coordinate battery projects or factories
- Newcomers and career changers who are looking to enter the battery industry

PREREQUISITES

- Basic knowledge of manufacturing, physics and chemistry
- Basic knowledge of English, as some terms and materials are in English

Note

- Included in the course price: Free access to the digital learning platform [SITRAIN access](#) – starting one week before the start of the course until two weeks after the end of the course.
- With the Learning Membership, you can deepen or repeat the content of this Learning Event as well as continue your education on other interesting topics.

COURSE OBJECTIVES

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

- At the end of this course, participants will have a solid understanding of the essential processes and requirements in battery production. After completing the course, participants will be able to:
- classifying the role of batteries in mobility, energy storage and industrial applications
- explain the structure and function of battery cells
- understanding key production steps from cell to system manufacturing
- recognizing the potential and challenges of modern battery technologies

COURSE OUTLINE

Module 1: Foundations of Battery Production

- Global Competition in Battery Cell Production
- Electrode Manufacturing Process
- Battery Cell Assembly
- Battery Cell Finalization
- Battery Module and System Production
- Challenges in Industrializing Battery Production
- Process Innovations in Battery Cell Production

Module 2: Foundations of Battery Technology

- Customer Requirements for Batteries
- Battery Hazard Potential
- Regulatory Requirements for Battery Development
- Introduction to Digitized Electromobility Component Production
- Battery Raw Materials and Their Challenges
- Battery Circular Economy as a Holistic Approach
- EU Battery Regulation and Its Implications