

Practical BESS engineering, taught the way it actually gets built.

Structured, project-grounded training for grid-scale battery energy storage — **cells, PCS, EMS, BMS, safety, and grid revenue** — built by an engineer who ships real projects, not a textbook author.

BY SERGEY SYRVACHEV

2,500+ STUDENTS ON UDEMY

4.6/5 UDEMY RATING (500+ RATINGS)

Three ways to learn BESS today. Only one is open to everyone.

01 VENDOR MATERIAL

Free, because it is selling

Webinars and datasheet decks stop where the product stops. Useful for one box, silent on how the whole system is engineered, permitted, and paid.

COST	Nothing
ACCESS	Anyone
OUTCOME	One product explained

02 BESS.COURSES

THE THIRD ROAD

Professional depth, open to everyone

The same engineering depth, taught from delivered projects by an engineer who ships them — published in the open and priced for one engineer, not a training budget.

COST	From \$30 · free reference layer
ACCESS	Anyone, no sponsor needed
OUTCOME	30+ hours, plus the reference layer

03 INSTITUTIONAL COURSES

Deep, but behind a sponsor

Live cohort training starts around €1,600 per seat for roughly 14 hours of contact time, and runs higher. Serious material, but in practice only engineers whose employer pays ever get in.

COST	From ≈€1,600 per seat
ACCESS	Employer-funded seats
OUTCOME	About 14 hours

“ Vendor material is free because it is selling. Institutional training is expensive because you are paying for production and marketing overheads as much as for the teaching. We took the third road: practitioner depth, published in the open, at a price an engineer can pay out of pocket.

WHY THIS WORKS — BESS KNOWLEDGE SHOULD NOT DEPEND ON WHO SPONSORS YOU

One platform, three layers.

LAYER 3 — THE SPECIALIST DEEP DIVES

≈15 H COMBINED

ENGINEERING

BESS Engineering Foundations

ENGINEERING

Fire Safety for BESS

COMMERCIAL

How a Battery Gets Paid

PROJECT MANAGEMENT

BESS Warranties, LTSA & Performance Testing

LAYER 2 — THE FOUNDATION

14H 38M

Grid-Scale BESS: The Complete Guide

the fundamentals that put your understanding ahead of most of the industry

LAYER 1 — THE FREE PLATFORM

FREE · NO SIGN-UP

400+ pages, most of them free: 255 glossary terms, 66 grid codes across 44 countries, 58 electricity markets, project-development stages from land to COD, construction explainers, a sizing calculator and augmentation planner, engineering checklists, and a fire-safety guide — **the most comprehensive free BESS resource we know how to build.**

LEARNING TIME

30 h

≈15 h core + ≈15 h deep dives.

SUPPORTING MATERIALS

400+ pages

Glossary, grid codes, markets, articles.

QUIZ QUESTIONS

300+

Check yourself as you go.

TOOLS & PRACTICE

Interactive

Calculators and interactive trainings.

By the numbers.

STUDENTS ENROLLED

2,500+

Engineers, project managers and developers.

COUNTRIES REACHED

125

Students on every continent.

MINUTES TAUGHT

600,000

Watch time across the catalogue.

MATERIAL

30+ h

Core course plus specialist deep dives.

INDEPENDENT RATINGS

500+

Public, verifiable ratings on the Udemy listing —
plus 28 named reviews on LinkedIn.

FREE PLATFORM

100+ / day

Unique engineers reading the open reference daily.

Source: Udemy instructor dashboard and platform analytics, August 2026.

Five ways to check us.

1 • UDEMY MARKETPLACE

2,500+ students · 4.6/5 from 500+ ratings · Bestseller badge — on Udemy's platform, under Udemy's rules.
Udemy Business member — part of its curated collection of courses.

2 • LINKEDIN, REAL NAMES

28 engineers, project managers and consultants have written about the course; every review is linked at **bess.courses/reviews**.

3 • CERTIFICATE OF COMPLETION

Every released course issues a certificate of completion with its own certificate number and QR code: that you can add to your LinkedIn profile.

4 • TEACHING CREDENTIALS

Sergey teaches on the ElectroMentors faculty: an approved provider of IEEE CEU/PDH certificates. Serves as an external lecturer in BESS business games, and BESS.courses works with the INSEAD community.

5 • CHECK THE TEACHING

A free course preview and free lessons on YouTube @BESS-Guy, so no sign-up.

In their own words.

“

The main takeaway: after this course, BESS is definitely no longer a black box. You start seeing one system instead of a set of disconnected pieces.

.....

Ivan Burdukov

Electrical Engineer | Protection & Control

LINKEDIN · AUG 2026

“

The biggest shift for me: understanding BESS isn't just a technical skill. It's a shared language between engineers, developers, lenders, and utilities — and that cross-functional fluency is exactly what the energy sector needs right now.

.....

Muhammad Anees Khan

Power System Engineer || Transmission Planning & Grid Expansion

LINKEDIN · JUL 2026

“

Highly recommend. There are not many people in the battery energy storage industry creating training from real experience, and Sergey's course stands out because it is both credible and useful.

.....

Brandon Zschokke

Verified UdemY review

UDEMY · APR 2026

The LinkedIn quotes here are verbatim and linked at [bess.courses/reviews](#); the UdemY review is among the 500+ public ratings on the UdemY listing. Roles as of the post date.

Free to read. No sign-up.

The most comprehensive free BESS resource we know how to build.

GLOSSARY

255

BESS terms, defined

The working vocabulary — what each term means, the numbers that go with it, and where practitioners get it wrong.

GRID CODES

66

Codes · 44 countries

What a battery must ride through, digitised from the codes — every curve states its source; 25 of 66 read straight from the clause.

PROJECT DEVELOPMENT

Roadmap

Every stage, land to COD

The full project roadmap — what happens at each stage, who decides, and which documents move the project forward.

FIRE SAFETY

Hub

NFPA 855 & UL 9540A

How the codes, large-scale fire testing and hazard analysis turn into site-design and permitting decisions.

SIZING CALCULATOR

AUGMENTATION PLANNER

ENGINEERING CHECKLISTS

FIRE-SAFETY GUIDE

ENERGY MARKETS MAP

PQ CURVE EXPLAINED

GRID-FORMING VS FOLLOWING

ROUND-TRIP EFFICIENCY

ORIGINAL RESEARCH

FREE COURSE PREVIEW

“ The reference gives the facts; the courses teach the reasoning that connects them.

THE PRINCIPLE — EVERY COURSE IS TAUGHT FROM THIS SAME OPEN REFERENCE

Grid-Scale BESS: The Complete Guide.

The entire grid-scale system — **cells to revenue** — in one structured core course. The four specialist deep dives build on it.

- Read **specifications and datasheets** critically.
- Master the **engineering foundations that matter for BESS**: power and energy, AC/DC, the grid basics.
- See **cells, PCS, BMS, EMS and the grid** as one system.
- Know every **BESS system component**: modules, racks, enclosures, HVAC, switchgear.
- Understand **why LFP won** over the other chemistries.
- Handle **fire safety and noise**: the two constraints that decide site layout and permits.
- Follow **project development** from land and permitting to financing and COD.
- Tie engineering decisions to **safety, bankability and revenue**.

UDEMY BESTSELLER (UDEMY LISTING)

CERTIFICATE OF COMPLETION

7-DAY REFUND

PRICED IN YOUR CURRENCY

Certificate and 7-day refund apply to purchases on bess.courses; on Udemy, Udemy's certificate and 30-day guarantee apply.

CORE COURSE

14h 38m

206 lessons across 11 modules — the foundation.

ACCESS

Lifetime

Stream anytime at [learn.bess.courses](https://bess.courses).

Eleven modules, **cell to revenue.**

01 Meet Your Instructor & Course Roadmap

How the course is structured · who built it

02 Why BESS? Why Now? Why You?

The four forces driving storage · real delivered projects

03 BESS Electrical Foundations Bootcamp

AC vs DC, power vs energy · how power flows through a station

04 Inside the Lithium-Ion Battery Cell

Anode to electrolyte, why LFP won · form factors & gigafactories

05 BESS Enclosures: From Cells to Container Systems

Modules, racks, container layout · HVAC & thermal management

06 Power Conversion Systems & Grid Connection

PCS, PQ curves and derating · transformers, MV switchgear, RMU

07 BESS Controls Architecture: BMS, PPC & EMS

Who does what across BMS/PPC/EMS/SCADA · a grid signal reaching a cell

08 BESS Hot Topics: GFM, Noise, Fire Safety, Augmentation, Bankability

Grid-forming inverters, noise, NFPA 68/69 · what banks actually finance

09 BESS Project Development & Finance

SPV, contracts, capital stack · stages from concept to construction

10 How Battery Storage Makes Money

Merit order, energy/capacity/ancillary · revenue stacking & real data

11 Beyond Lithium-Ion: Alternative Storage Technologies

Flow batteries and pumped hydro · CAES, gravity, hydrogen

NO PREREQUISITES

Module 03 builds the electrical foundations from Ohm's Law up — **no electrical engineering degree required** to start.

Four specialist courses. Choose by the decision you need.

COMMERCIAL

How a Battery Gets Paid

Build a revenue stack after losses, costs, and market constraints.

- The flexibility gap and the gross-to-net loss bridge
- Revenue stacking, merchant trading and the capacity market
- The offtake risk dial — contracted versus merchant

10 modules · 26 lessons · 2h 21m

For developers, investors and commercial leads — and the one to recommend to decision makers.

ENGINEERING

BESS Engineering Foundations

Defend the ratings, losses, RTE and the grid interface.

- Energy, power, duration and the battery operating window
- P-Q capability, round-trip efficiency and degradation over life
- The PCS and transformer interface up to the point of interconnection

11 modules · 99 lessons · ~5h

For engineers — the core course recommended first, not required.

ENGINEERING

Fire Safety for BESS

Turn codes and fire-test evidence into site-design and approval decisions.

- Runaway, propagation and deflagration — how a fault escalates
- Codes and standards: NFPA 855, UL 9540A, hazard analysis, the ERP
- Reading fire-test evidence into site layout and separation distances

12 modules · 39 lessons · 3h 45m

For engineers and permitting leads.

PROJECT MANAGEMENT

BESS Warranties, LTSA & Performance Testing

Decide whether a shortfall is measurable, claimable, and recoverable.

- The warranty stack — which document promises what, and who owns the risk
- Capacity testing, availability accounting, claims and remedies
- Degradation, the operating envelope and augmentation planning

13 modules · 49 lessons · 4h

For owners' engineers and asset managers.

EARLY BIRD

Courses in production state their completion window up front. **Full refund any time until release.**

Six things you'll be able to do.

01

Speak the language of BESS fluently

Cell chemistry, PCS, BMS, EMS, fire safety, bankability — understand every acronym in any project meeting.

02

Read the documents like a senior engineer

Datasheets, PCS specs, PQ curves, derating and transformer selection — catch what vendors hope you will not ask about, and avoid costly errors.

03

Size and specify a system

Power, energy and duration, C-rate and depth of discharge, degradation and augmentation — what to buy, and how much of it.

04

Navigate the controls hierarchy

BMS, PPC, EMS and SCADA — which layer does what, how the controls actually work, and how a grid signal reaches a battery cell.

05

Understand how a battery gets paid — and financed

Energy, capacity and ancillary services, revenue stacking across markets — plus the SPVs, PPAs and capital stacks that make lenders say yes.

06

Avoid the mistakes that kill projects

Fire safety, augmentation, bankability gaps — learn from real failures and project deal-breakers.

WHICH PATH FITS YOUR ROLE → NEXT SLIDE

Built for everyone who **needs to understand BESS.**

AUDIENCE 01

Engineers entering BESS

Coming from solar, wind, or power electronics? Get the BESS-specific foundation you cannot find in datasheets and YouTube videos.

→ **The Complete Guide + BESS Engineering Foundations** — read a BESS project end to end, and sanity-check the electrical design.

AUDIENCE 02

Senior engineers & PMs

You already know power systems. The courses fill the BESS-specific gaps so you can lead projects with confidence from day one.

→ **The deep dive your track needs** — read an LTSA and a capacity warranty, and know which guarantee actually protects you.

AUDIENCE 03

Developers & financiers

You evaluate BESS projects — understand the technology and bankability deeply enough to make billion-dollar decisions.

→ **The Complete Guide + How a Battery Gets Paid** — build and defend a revenue stack and explain what makes it bankable.

AUDIENCE 04

Executives & decision-makers

Understand the technology your team is shipping or buying — without going back to engineering school.

→ **How a Battery Gets Paid — or the corporate plan for team training** — judge the business case, and get the whole team on one shared language.

AND HONESTLY, NOT FOR EVERYONE

No vendor pitches, no PhD electrochemistry, and not tuned for residential storage — **every course page carries its own honest fit list** before you pay.

Institutional training exists. This is built differently.

PUBLIC PROOF

Reviews you can verify

Feedback lives in public — Udemmy ratings and LinkedIn posts under real names — not on private course platforms. All five verification channels: the proof slides.

WHO TEACHES

A shipping practitioner

Built and updated by a Director of Product Engineering delivering grid-scale projects — not a training department. **And he is reachable: ask him questions directly, any time.**

FORMAT & PRICE

Modular, one-time, lifetime

Live cohort training runs €1,600+ per seat for about 14 hours of contact time; this catalogue is ~30 hours of video with lifetime access.

HONESTY

Compared in the open

A fully open platform where you can check any fact or claim before you pay: the materials, the people, the reviews and the experience behind them are all out in the open.

“ Any small question you hesitate to ask is probably sitting unanswered in the minds of hundreds of other engineers.

NOBODY IS LEFT BEHIND — ASK QUESTIONS WHILE YOU WORK THROUGH THE MATERIAL

An engineer who teaches what he ships.



INSTRUCTOR / SERGEY SYRVACHEV

Sergey Syrvachev — Director of Product Engineering at a grid-scale BESS integrator, teaching from the projects he ships.

- In energy & product engineering **since 2010**.
- In battery storage since 2020: building BESS, inverter, and EMS product lines from cell chemistry to grid integration.
- Every lesson grounded in projects he has helped deliver: structured, practical, not theory.

LINKEDIN TOP 1% ENERGY VOICE

PMP

PSM

PSPO

DATA SCIENCE

linkedin.com/in/ssyrvachev

[bess.engineer](#)

youtube.com/@BESS-Guy

— WHY WE BUILD THIS

“ Every well-engineered battery project makes the grid more flexible — and the faster that knowledge spreads, the faster the transition moves.

bess.courses

bess.engineer

linkedin.com/in/ssyrvachev

youtube.com/@BESS-Guy