Solar EPC Project Management Training Course

Professional Development Training Course Outline

Category	Renewable Energy	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Solar EPC Project Management Training Course is designed to equip professionals with the capabilities required to plan, execute, monitor, commission, and close solar photovoltaic (PV) Engineering, Procurement and Construction (EPC) projects. The course integrates project management, solar engineering fundamentals, EPC contracting, project controls, procurement, construction management, quality assurance, HSE, risk management, cost control, scheduling, commissioning, and stakeholder management. It also incorporates emerging practices such as AI-enabled project analytics, BIM/4D-5D planning, digital twins, IoT-enabled monitoring, predictive analytics, and data-driven decision-making technologies increasingly associated with modern project delivery.

Participants will work through realistic solar EPC scenarios covering utility-scale solar farms, commercial and industrial (C&I) PV projects, rooftop solar installations, battery energy storage interfaces, grid integration, subcontractor coordination, procurement delays, construction risks, and commissioning challenges. The programme emphasizes converting project plans into measurable execution strategies through WBS, critical-path scheduling, earned value management, procurement tracking, risk registers, KPI dashboards, change control, quality inspections, and commissioning documentation. Case-based learning and practical exercises help participants develop the confidence to manage solar projects from concept and design through procurement, construction, testing, handover, and operational readiness.

Programme Curriculum

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Course Objectives

1. Develop advanced Solar EPC Project Management capabilities across the complete project lifecycle.
2. Apply project planning, WBS, scheduling, critical-path analysis, and resource optimization to solar projects.
3. Understand solar PV system design interfaces and their implications for EPC execution.
4. Strengthen EPC procurement and supply-chain management, including long-lead equipment and vendor coordination.
5. Apply cost control, budget management, cash-flow forecasting, and earned value management (EVM).
6. Develop effective risk management, mitigation planning, and predictive project analytics.
7. Implement quality assurance/quality control (QA/QC) systems for PV modules, inverters, structures, cabling, and installation.
8. Integrate HSE management, environmental compliance, and construction-site controls into project execution.
9. Use BIM, 4D/5D planning, digital dashboards, IoT, and digital-twin concepts to improve project visibility.
10. Manage contract administration, claims, variations, change orders, and stakeholder expectations.
11. Strengthen construction supervision, subcontractor management, productivity monitoring, and progress reporting.
12. Apply systematic approaches to testing, commissioning, grid connection, handover, and project closeout.
13. Build data-driven strategies for on-time, on-budget, high-quality, sustainable solar EPC delivery.

Target Audience

1. Solar EPC Project Managers and Project Directors
2. Solar PV Engineers and Electrical Engineers
3. Construction Managers and Site Managers
4. Project Controls, Planning and Cost Engineers
5. Procurement and Supply-Chain Professionals
6. QA/QC, HSE and Commissioning Professionals
7. Contract, Commercial and Quantity Surveying Professionals
8. Renewable Energy Developers, Consultants, Investors and Asset Managers

Course Modules

Module 1: Solar EPC Project Management Fundamentals

- Solar EPC project lifecycle
- Project charter, scope definition, **WBS and deliverables**
- Roles and responsibilities of EPC contractors, owners, consultants and subcontractors
- Project governance, communication structures and stakeholder management
- **Case Study:** Managing a utility-scale PV project from notice-to-proceed to commercial operation

Module 2: Solar PV Engineering, Design & EPC Interfaces

- PV modules, inverters, mounting systems, DC/AC systems and electrical infrastructure
- Site assessment, energy yield, preliminary design and constructability considerations
- **Single-line diagrams, BoQ, specifications and design review**
- Design coordination between civil, structural, electrical and grid-connection teams
- **Case Study:** Resolving a design-interface issue affecting inverter locations and cable routing

Module 3: EPC Planning, Scheduling & Project Controls

- Developing **WBS, CPM schedules, milestones, baselines and look-ahead plans**
- Resource loading, productivity planning and construction sequencing
- **Critical Path Method, schedule risk and recovery planning**
- Progress measurement, dashboards and performance reporting
- **Case Study:** Recovering a delayed solar farm schedule through resequencing and resource optimization

Module 4: Procurement, Contracts & Supply-Chain Management

- Procurement strategies for **modules, inverters, transformers, structures and electrical equipment**
- Vendor prequalification, technical evaluation and purchase-order management
- **Long-lead item tracking, logistics, expediting and inventory control**
- EPC contracts, subcontracting, variations, claims and change management
- **Case Study:** Mitigating a delayed inverter shipment without compromising the project completion date

Module 5: Cost Management, Risk & Commercial Controls

- Project budgeting, cost codes, commitments and **cost-to-complete forecasting**
- **Earned Value Management (EVM), CPI, SPI and variance analysis**
- Risk identification, risk registers, probability-impact assessment and mitigation
- Scenario planning, contingency management and commercial decision-making
- **Case Study:** Controlling cost escalation caused by logistics, currency and material-price risks

Module 6: Construction Management, QA/QC & HSE

- Site mobilization, construction sequencing and subcontractor coordination
- PV module installation, mounting structures, cabling and electrical works
- **Inspection and Test Plans (ITPs), NCR management and quality documentation**
- HSE leadership, toolbox talks, permit systems and environmental controls
- **Case Study:** Correcting recurring installation-quality issues through root-cause analysis and corrective action

Module 7: Digital Solar EPC, AI, BIM & Performance Analytics

- **BIM, 4D/5D planning and digital construction coordination**
- AI-supported scheduling, predictive risk analysis and project performance forecasting
- **Digital twins, IoT sensors, real-time monitoring and project dashboards**
- Data-driven progress tracking and planned-versus-actual performance analysis
- **Case Study:** Using a digital project dashboard to identify schedule bottlenecks and forecast completion risk

Module 8: Testing, Commissioning, Handover & Project Closeout

- Pre-commissioning inspections, electrical testing and system verification
- **Performance testing, punch-list management and defect closure**
- Grid-connection coordination, commissioning procedures and acceptance criteria
- As-built documentation, O&M manuals, training and client handover
- **Case Study:** Managing final commissioning and handover of a commercial-scale solar PV plant

Training Methodology

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

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