# VFD ACS 6000 ABB Training Course

Professional Development Training Course Outline

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|---|---|---|---|
| **Category** | Engineering | **Duration** | 10 Days |
| **Base Fee** | $3,000 USD | **Delivery Mode** | Online / On-site Hybrid |

## Course Introduction

VFD ACS 6000 ABB Training Course is designed to deliver superior motor control, energy efficiency, process optimization, and operational reliability for high-power industrial applications. Widely deployed across industries such as oil & gas, mining, power generation, cement, water treatment, metals, and manufacturing, the ACS 6000 supports digital transformation initiatives through intelligent monitoring, predictive maintenance, advanced diagnostics, and seamless automation integration. Organizations worldwide utilize this technology to reduce operating costs, improve asset performance, and achieve sustainable production targets.

This comprehensive training program provides participants with the technical knowledge and practical skills required to install, configure, operate, commission, troubleshoot, maintain, and optimize ABB ACS 6000 drive systems. The course combines theoretical concepts with hands-on exercises, real-world industrial case studies, performance analysis techniques, and best practices aligned with Industry 4.0, smart manufacturing, energy management, and reliability-centered maintenance strategies. Participants will gain the confidence to maximize drive availability, enhance process efficiency, and minimize costly downtime in critical industrial environments.

## Programme Curriculum

**VFD ACS 6000 ABB Training Course**

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**Course Duration**

10 Days

**Course Objectives**

1. Understand ABB ACS 6000 architecture and medium-voltage drive technology.
2. Apply advanced motor control principles for process optimization.
3. Configure drive parameters for different industrial applications.
4. Execute safe installation and commissioning procedures.
5. Interpret drive alarms, events, and diagnostic information.
6. Perform preventive, predictive, and condition-based maintenance activities.
7. Troubleshoot drive faults using systematic diagnostic methodologies.
8. Analyze power quality, harmonics, and electrical performance.
9. Integrate ACS 6000 drives with SCADA, DCS, and PLC systems.
10. Implement Industrial IoT and digital monitoring solutions.
11. Optimize energy efficiency and operational performance.
12. Apply industrial cybersecurity best practices to drive systems.
13. Improve asset reliability using data-driven maintenance strategies.

**Target Audience**

1. Electrical Engineers
2. Maintenance Engineers
3. Automation Engineers
4. Instrumentation & Control Engineers
5. Commissioning Engineers
6. Electrical Supervisors
7. Plant Operations Personnel
8. Reliability & Asset Management Professionals

**Course Modules**

**Module 1: ABB ACS 6000 Overview and Applications**

- Introduction to ACS 6000 technology and product portfolio
- Key features, capabilities, and system advantages
- Industrial applications and sector-specific use cases
- Benefits of medium-voltage drive implementation
- **Case Study:** ACS 6000 application in a cement production facility

**Module 2: Medium Voltage VFD Fundamentals**

- Principles of variable speed motor control
- Understanding torque, speed, and load characteristics
- Power conversion and inverter operation concepts
- Energy efficiency and process control benefits
- **Case Study:** Energy reduction project in a mining operation

**Module 3: ACS 6000 Hardware Architecture**

- Power circuit and converter topology overview
- Drive modules, transformers, and cooling systems
- Control unit and protection system functions
- Hardware layout and component identification
- **Case Study:** Hardware reliability improvement initiative

**Module 4: Electrical Safety and Operational Standards**

- Medium-voltage safety requirements and procedures
- Lockout/Tagout (LOTO) implementation practices
- Arc-flash hazards and risk mitigation measures
- International standards and compliance requirements
- **Case Study:** Analysis of a drive maintenance safety incident

**Module 5: Installation and Site Preparation**

- Environmental and infrastructure requirements
- Cable routing, grounding, and shielding practices
- Mechanical installation guidelines
- Pre-installation inspection procedures
- **Case Study:** Installation challenges at a power generation plant

**Module 6: Drive Commissioning Procedures**

- Pre-commissioning verification activities
- Startup and energization procedures
- Functional testing and validation methods
- Performance acceptance testing requirements
- **Case Study:** Commissioning of a large water pumping station

**Module 7: Drive Configuration and Parameter Settings**

- Understanding parameter groups and functions
- Motor and application-specific configuration
- Control modes and operational settings
- Backup, restore, and parameter management
- **Case Study:** Process optimization through parameter tuning

**Module 8: Human Machine Interface (HMI) Operations**

- Navigation of ACS 6000 operator interface
- Monitoring operating conditions and drive status
- Alarm, event, and warning management
- Trend analysis and performance monitoring

- **Case Study:** Improving operational visibility using HMI tools

**Module 9: Communication Networks and Integration**

- Industrial communication protocols overview
- Integration with PLC, DCS, and SCADA platforms
- Network architecture and data exchange concepts
- Remote monitoring and diagnostics capabilities
- **Case Study:** Drive integration within an automated production line

**Module 10: Power Quality and Harmonic Management**

- Understanding harmonics and electrical disturbances
- Power factor and network performance considerations
- Harmonic mitigation techniques and solutions
- Power quality monitoring and analysis methods
- **Case Study:** Resolving harmonic issues in an industrial facility

**Module 11: Preventive and Predictive Maintenance**

- Routine inspection and maintenance planning
- Condition monitoring techniques and tools
- Predictive maintenance strategies for critical assets
- Maintenance documentation and reporting practices
- **Case Study:** Downtime reduction through predictive maintenance

**Module 12: Troubleshooting and Fault Diagnostics**

- Systematic fault-finding methodologies
- Alarm interpretation and event analysis
- Diagnostic tools and troubleshooting workflows
- Root cause analysis techniques
- **Case Study:** Resolution of recurring drive trip conditions

**Module 13: Performance Optimization and Energy Management**

- Energy efficiency assessment techniques
- Load analysis and process optimization methods
- Operational performance benchmarking
- Continuous improvement strategies
- **Case Study:** Energy optimization in a water treatment facility

**Module 14: Industrial Cybersecurity for Drive Systems**

- Cybersecurity fundamentals for industrial environments
- Secure access and user management practices
- Network security and threat mitigation measures
- Cybersecurity standards and compliance considerations
- **Case Study:** Protecting critical drive infrastructure from cyber threats

**Module 15: Practical Workshops and Industrial Applications**

- Hands-on configuration and commissioning exercises

- Real-time monitoring and diagnostics activities
- Troubleshooting simulations using operational scenarios
- Maintenance and performance evaluation workshops
- **Case Study**: Complete lifecycle management of an ACS 6000 installation

### 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** | 04 Dec 2026 | Online | $2,000 |

| Start Date | End Date | Location | Price |
|---|---|---|---|
| **23 Nov 2026** | 04 Dec 2026 | Physical | $3,000 |
| **23 Nov 2026** | 04 Dec 2026 | Physical | $6,000 |
| **23 Nov 2026** | 04 Dec 2026 | Physical | $6,000 |
| **23 Nov 2026** | 04 Dec 2026 | Physical | $12,000 |
| **23 Nov 2026** | 04 Dec 2026 | Physical | $9,000 |
| **23 Nov 2026** | 04 Dec 2026 | Physical | $12,000 |
| **23 Nov 2026** | 04 Dec 2026 | Physical | $12,000 |

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

**Register Online Now**

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com