XCELERATE TRAINING INSTITUTE
your learning & development partner

ELECTRICAL ENGINEERING

Electrical Transient Analysis Program (ETAP) on Circuits

DURATION	LANGUAGE	FORMAT
5 days	English	Classroom / Online

Upcoming dates

Dates	Venue	Format	Fee
4 – 8 Jan 2027	Kuala Lumpur	Classroom	€5,500
28 Jun – 2 Jul 2027	Live online	Online (live)	€1,200
6 – 10 Dec 2027	Live online	Online (live)	€1,200

Register or ask a question

Online: x8ti.com/course/electrical-transient-analysis-program-etap-on-circui…
+491631686678 · info@x8ti.com

Electrical Transient Analysis Program (ETAP) on Circuits

Introduction

Power system equipment must withstand not only its rated voltage but also short circuit voltages. A key issue related to voltages is arc flashing, which primarily relies on short circuit and relay coordination studies. ETAP (Electrical Transient Analysis Program) is a widely used software for power system analysis in various industries. This training course focuses on power system modeling and analysis using ETAP software to assess different power analysis models.

Learning Objectives

Upon completing this course by Xcelerate Training Institute, participants will be able to:

- Understand the significance of power system modeling.
- Comprehend the need for short circuit current calculation.
- Perform manual short circuit calculations using simple methods.
- Analyze motor starting and acceleration.
- Determine switchgear breaking and making capacities.
- Recognize the importance of arc flashing and relay coordination studies for operational and safety purposes.
- Design S/S grid earthing using ETAP.
- Write test case simulations using ETAP software.
- Explore the extensive capabilities of ETAP Power Station.

Training Methodology

This collaborative training program includes:

- Lectures
- Seminars and Presentations
- Group Discussions
- Assignments
- Case Studies and Functional Exercises Following the ‘Do-Review-Learn-Apply’ model.

Benefits for Your Organisation

Organizations can benefit from:

- Staying ahead with a comprehensive overview of the Electrical Transient Analysis Program (ETAP) on circuits.
- Assisting technical committees in creating, publishing, and revising standards related to ETAP.
- Utilizing examples and case studies to illustrate and ensure the material's applicability to the organization.
- Gaining awareness and understanding of roles and responsibilities concerning ETAP.

Benefits for You

Participants will gain:

- Awareness of the latest developments in ETAP by studying new literature and other sources.
- Access to a tailor-made academic program for technicians or equivalent workforce involved in ETAP.
- Training, assessment, and certification by experts in the ETAP domain.
- Opportunities to discuss and find solutions to issues encountered during their normal working activities.

Who Should Attend

This course is suitable for:

- Current ETAP users seeking a refresher.
- New ETAP users.
- Power engineers looking to enhance their skills using ETAP.

Course Outline

Overview of ETAP

- Capabilities and Limitations of ETAP
- One-Line Diagram/One-Line View (OLV)
- Creating and merging revisions, presentations, and configurations
- Scenario, Study, and Project Wizards
- Crystal Reports and Customizations

Elements of ETAP

- AC and DC Element Descriptions
- Load Modeling
- Electrical Systems Modeling and Fundamentals
- Load Flow (Balanced and Unbalanced) Analysis
- Load Flow and Cable Sizing

Sizing & Fault Calculations

- Transformer Sizing
- Benefits of Calculated Short Circuit Currents
- Introduction to Fault Current Calculations
- Breaking and Making Currents
- Per Unit Systems
- Typical Values of Positive, Negative, and Zero Phase Sequence Impedances

Perform Calculations Using Standard Techniques

- Manual Calculations of Isc by MVA Method
- Calculation of Isc by Impedance Method
- Calculation of Isc by Symmetrical Components

- Calculations as Defined and Recommended by IEC/ANSI Standards
- Fault Levels
- Switchgear/Fuse Rating
- Typical Cases for Switchgear Sizing
- Relay Coordination and Arc Flashing Studies

Data Collection, Plotting & Modeling

- Data Collection Procedures
- Plotting Time/Current Curves
- Relay Coordination Intervals
- Equipment Damage Curves for Cables, Transformers
- System Modeling for Device Coordination Study
- ETAP Star (Device Coordination/Selectivity)

Earthing & Acceleration Analysis

- System Earthing (Solid, Resistance, and Reactance or Ungrounded Systems)
- Substation Grounding Grid Design and Calculations
- Motor Parameter Estimation
- Motor Acceleration Analysis (Dynamic and Static)
- Test Simulation Cases using ETAP
- Course Evaluations and Summary

Introduction to ETAP Software

- Introduction to ETAP Software
- Creating Single Line Diagrams in ETAP
- Adding Templates and Parameters to SLD

Introduction to ETAP Software

- Load Flow Analysis
- Report Manager and Transformer Overloading
- Composite Network in ETAP
- Short Circuit Analysis
- Arc Flash Analysis

Introduction to ETAP Software

- Motor Acceleration Static Study
- Motor Acceleration Study Dynamic
- Motor Acceleration Study with VFD

Introduction to ETAP Software

- Cable Pulling System
- Cable Ampacity Calculation with Underground Raceway System

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Registration Form

Electrical Transient Analysis Program (ETAP) on Circuits

Preferred dates: ..... Venue or online: .....

Duration: 5 days Language: .....

Please complete and email this form to us, or register online. We confirm your place and send the invoice within one working day.

Delegate information

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Official email: ..... Personal email: .....

Company information

Company name: .....

Address: .....

City / country: ..... VAT / tax number: .....

Person responsible for training & development

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

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