

# Teradyne Institute Training Catalog for Celerity Systems

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2005



# *Why should you attend Teradyne Institute classes?*



- ⇒ You learn to use your Celerity systems and equipment from certified instructors who have trained thousands of students
- ⇒ Classes can be attended at any one of the Teradyne Institute locations:

- Antwerp, Belgium
- Bracknell, UK
- Deerfield, IL, US
- Wuppertal, Germany

Classes can also be delivered at your site

- ⇒ Courses can be created or modified to address your specific needs
- ⇒ You learn to maximize the full potential of Teradyne products by following correct procedures
- ⇒ Class sizes are optimized to facilitate hands-on experience
- ⇒ Training can accommodate all skill levels and all job descriptions



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# *When and How to Enroll in a Training Class?*

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## **Contact us when:**

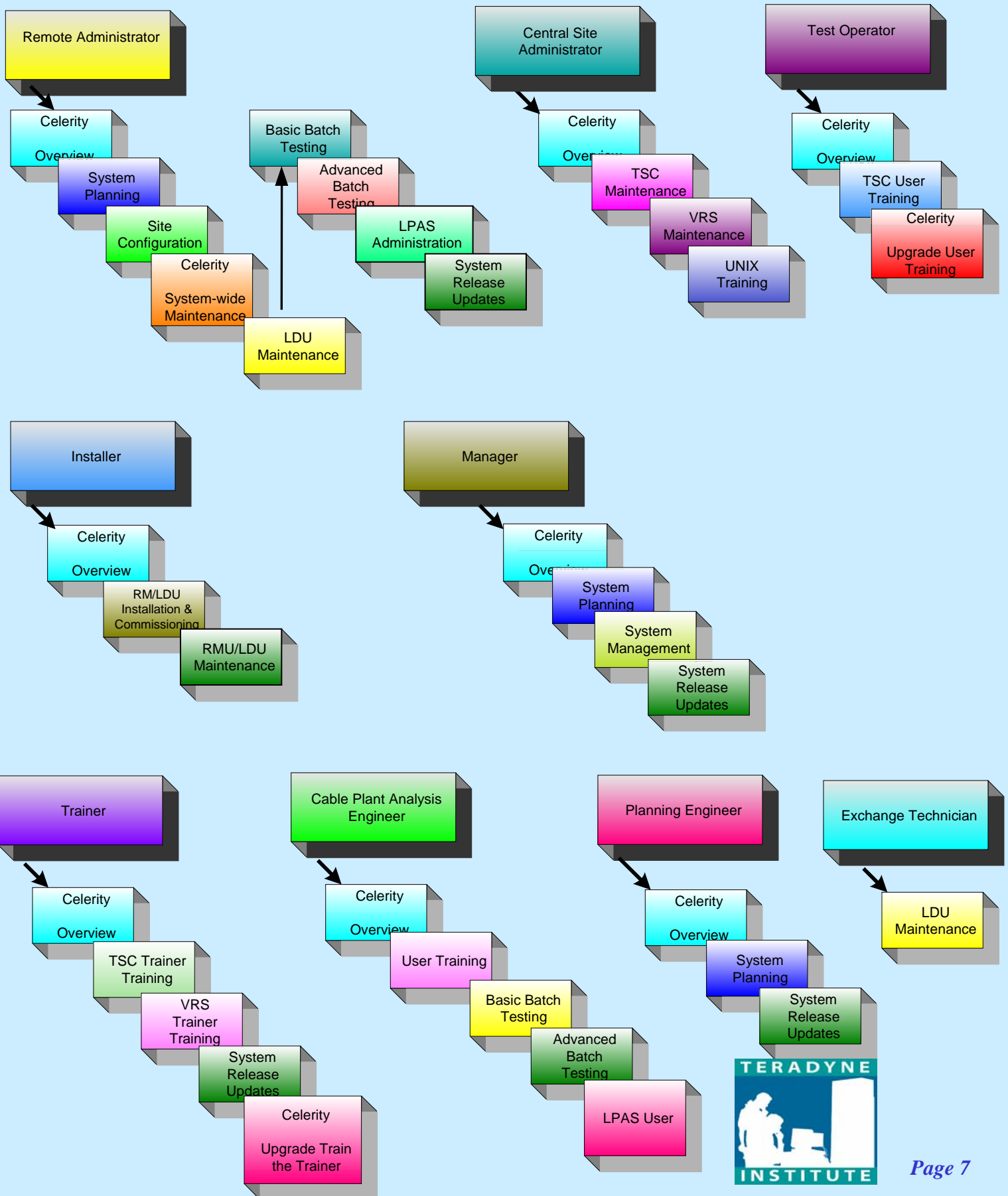
- **New Celerity products are deployed**
- **New Software Releases are planned**
- **New people join your group who need Celerity training**
- **You or your department plans to start using your existing Celerity**
- **You need additional knowledge in using the Celerity system**

## **Contact us by any of the following ways:**

- **Call your Teradyne Sales Account Manager**
- **Call one of the Teradyne Institute locations directly at:**
  - **Antwerp (32) 3 2339271**
  - **Deerfield (847) 940-9000**
- **E-mail us at: [teradyne.institute@ttd.teradyne.com](mailto:teradyne.institute@ttd.teradyne.com)**
- **Contact your local Teradyne Customer Service Representative**
- **Contact your company's Training Department or Corporate Training Center for listing of scheduled classes**



# Your Path to Skills Acquisition



### Purpose

To provide an introduction to Celerity together with its practices and procedures and ways in which it may be used to improve the service to the customer.

### Pre-requisite:

None

### Who Should Attend:

Everyone working with Celerity

### You Will Learn How To

- Understand general Celerity practices and operating procedures together with general line test principles
- Understand the structure, system architecture, and system dimensions of the system
- Obtain an overview of the TSC menu structures, main user commands, facilities and functionality of the TSC

### Course Content

- What is Celerity -- what can it do for you?
- TSC hardware and component parts - show and tell
- System dimensioning
- Communications with the TSC, including theory of architecture
- System software, screen displays and user logon
- User privilege levels
- Main testing functions
- Dispatch statement--examples and discussion
- Introduction to test results
- Introduction to Footprinting
- Unattended testing - - a brief tour through parametric quick testing and routining
- Course is designed to show the features available rather than train in the use of same
- Introduction to performance statistics, system configuration, TSCadm, system maintenance, and networking via TSCNET



**Purpose**

To update those working on a day to day basis with Celerity with product changes occurring as a result of a System Release Update and to review and reinforce Celerity knowledge

**Pre-requisite:**

Celerity Overview

**Who Should Attend:**

Administrators, Trainers, Planners, & Managers

**You Will Learn How To**

- Understand the general overview of the System Release
- Understand a full description of all product updates and changes associated with the new software System Release

**Course Content**

These courses contain information that is determined by the content of the release. They include training on new features, enhancements and changes to the software and hardware.



### **Purpose:**

To enable Telecom personnel to install and commission the LDUs

### **Pre-requisite:**

Knowledge of Celerity, knowledge of electrical practices & cabling is required

### **Who Should Attend:**

Installers, Exchange Persons, Administrators

### **You Will Learn How To:**

- Understand the functionality of the LDUs
- Provide the knowledge and understanding required to perform self installation and commissioning of the LDU following Teradyne Standard Acceptance Procedures

### **Course Content**

- Introduction to the LDU and its component parts, including LED function
- Rack mounting of the LDU and physical installation
- Board jumper settings
- Installation of chip sets
- Wiring of Test Bus terminations, power, reference voltage, communications line and sample line
- Setting the exchange specific ID codes
- Downloading software to the LDU locally and remotely
- Configuration of the communications between the LDU and the TSC
- The MAX 2000 matrix, its use, functionality, and its connections to the LDU
- Market specific information covering the interface of the LDU with the switches found in the relevant country
- A complete training in the Customer Acceptance Procedure using an artificial line for testing and accepting the LDU
- How to measure and calculate Exchange Limits using the Exchange Limits Procedure



### Purpose

To enable Telecom personnel to install and commission the LDUs

### Pre-requisite:

Celerity Overview

### Who Should Attend:

Installers, Exchange Persons, Administrators

### You Will Learn How To

- Understand the LDU hardware and connections
- Provide understanding and skill of the LDU Maintenance Commands in order to maintain the unit

### Course Content

- LDU Hardware overview, Powering the MU on/off, Understanding Alarm indicators, Replacing fuses, MU functional description, Power connections, Reference voltage, Ringing supply, Alarming connections
- LDU and the MAX 2000 Matrix (if relevant to the market)
- Communications wiring
- Modem configuration
- Connecting to the communications ports
- Board configurations, jumper settings, chip sets.
- Overview of DSAT technology
- Interface issues with the relevant switches
- LDU Maintenance Commands, Measurement, Access, Utilities, Routine Mode, Line Test command
- Upgrading the DU software locally and remotely from the TSC
- TSC LDUs Maintenance Tools
- Troubleshooting, Communication problems, Measurement problems, Extended Test problems, Busy line problems, Board replacement, System verification after repair
- Maintenance, power supplies, communications lines, Modem communication checks, Maintenance schedule



### Purpose

- Provide a general understanding of Celerity principles
- Provide a general understanding of Celerity equipment and dimensioning
- Provide an understanding of how to gain maximum benefit from the use of Celerity

### Pre-requisite:

Celerity Overview

### Who Should Attend:

All individuals and groups participating in the implementation or expansion of Celerity

### You Will Learn How To

- Understand the role of Celerity as part of an overall service strategy
- Operate the Celerity system competently in accordance with Celerity procedures
- Analyze information provided by Celerity, thus providing guidance on its use and how to maximize its benefits
- Provide guidance to the various departments on the use of Celerity

### Course Content

- System sizing and dimensioning
- Communication equipment
- Provisioning
- Space requirements
- Power requirements
- Cabling requirements
- Cutover strategies
- Operational impact
- System maintenance
- Implementation
- Training
- Future planning strategies
- Project management
- Documentation
- Support and warranty
- Maintenance agreements
- Services available



**Purpose**

The purpose of this course is to enable field engineers to fully maintain the LDU (Loop Diagnostic Unit)

**Pre-requisite:**

Celerity Overview

**Who Should Attend:**

Remote Administrators,  
Exchange Technicians

**You Will Learn How To**

- Understand the LDU hardware and connections
- Provide understanding and skill of the LDU Maintenance Commands in order to maintain the unit

**Course Content**

- Overview of DSAT technology
- TSC switch configuration
- LDU hardware overview
- Dip switch settings
- Communications option and wiring
- Host switch interfaces and protocols
- Local mode diagnostic tools



**Purpose**

The purpose of this course is to train users in the operational usage of the TSC.

**Pre-requisite:**

- Celerity Overview
- Basic xDSL knowledge

**Who Should Attend:**

TSC Test Operators

**You Will Learn How To**

- Understand how to use the TSC in order to run demand and extended line tests.
- Provide knowledge of the various testing and information retrieval options of the TSC.
- Analyze the information provided by the TSC and thus to gain an understanding of the principles involved in the line testing process.

**Course Content**

- Telephony and xDSL basics (optional)
- Types of line faults
- Main testing functions
- Demand test--as an introduction to line test and an introduction to usage of the system
- Dispatch statement-examples and discussion
- An introduction to test results, including bell and cable statements, and measurement summaries
- An introduction to and demonstration of Extended Testing
- Unattended testing-a brief tour through parametric batch testing, quick testing and routining
  - This section is designed to show the features available rather than train in the use of same
  - Includes overview of batch specifications, report specifications and filters
- Archiving of test results
- Using Footprinting
- The testing network architecture and testing errors



### Purpose:

This course will enable administrators and cable maintenance staff to utilize the basic features of batch testing to monitor the cable network in the TSC's service area. It will provide the attendees with an overview of the basic and extended features. The extended features will be dealt with in the Advanced Batch Testing Course (387-601-28).

### Pre-requisite:

Celerity Overview  
TSC User

### Who Should Attend:

TSC Administrators, Cable  
Plant Analysis Engineer

### You Will Learn How To

Use basic features of batch testing to configure, view and generate reports using routining and parametric batch testing.

### Course Content

- Learn the difference of "Parametric" and "Quick" tests
- Perform routine management tasks such as:
  - Configure routine start & stop times
  - Select Routine classes
  - Have each routine element create its own Routine report
  - Monitor routine throughput
  - Identify routining problems
- Use "Rapid batch setup" for simple parametric batches
- Perform report specifications maintenance for routining such as:
  - Configure quick report specifications
  - Schedule report specifications
- View results generated by the routining and parametric batch jobs
- Monitor the batch and report activities



### Purpose:

This course will enable administrators and cable maintenance staff to extend their knowledge and understanding to make use of all batch testing features the TSC has to offer.

### Pre-requisite:

Celerity Overview  
TSC User  
Basic Batch Testing

### Who Should Attend:

TSC Administrators, Cable  
Plant Analysis Engineer

### You Will Learn How To:

Fully manage parametric batch tests, parametric and routining reports, filters and follow-on specifications.

### Course Content

- Manage “Parametric” and “Quick” report specifications
- Manage parametric batch specifications:
  - Configure run schedules
  - Configure automatic report creation
  - Select filters
  - Select test ranges
  - Configure follow-on specifications
- Create and apply “Quick test” and “Parametric test” filters
- Locate and read results generated by batch testing
- Monitor the performance of the batch and report jobs

# ***TSC Site Configuration & Administration - 387-601-04***

## ***Two Day Course***



### **Purpose:**

The purpose of this course is to enable system administrators to configure the TSC and the Celerity test network and to administer the usage of the Celerity system

### **Pre-requisite:**

Celerity Overview

### **Who Should Attend:**

TSC Administrators

### **You Will Learn How To:**

- Understand inputting site configuration data into the TSC
- Use site configuration menus to set up and maintain the test network
- Use TSC Administration facilities in order to properly manage user access and routine usage of the testing facilities

### **Course Content**

#### **Site Configuration:**

- Configure TSC ports, analogue switches, digital switch clusters, DN ranges, build DN line records into the system, Configure Switch Access Ports, Test Ports, Matrix Line Groups, use Matrix Line Groups to improve the performance of overnight routing, configure LDUs, print and work with site documents, excluding lines from line test and setting network parameters

#### **TSC Administration:**

- Check application software process, back up and restore the system using Application and Full System Backups, start and stop the TSC application

Configure UPS monitoring and printers

Use Sun platform commands including reading the system console log

#### **TSC Alarming:**

- Configure alarming
- Use Alarming messages to monitor the system
- Understand alarming error messages as a system maintenance diagnostic tool

#### **TSCNET**

- Understand how networked TSCs communicate, use a remote TSC to run a line test, locate DNs and Ens on remote, display the state of the network, force an announcement, control the Finder process use of the network, update the TSC map file

#### **Log files:**

- Monitor the TSC log files as part of the maintenance schedule

#### **User Administration:**

- Create/delete/modify TSC user accounts, and User groups
- Use User groups to restrict user test access within the test network

#### **Performance Statistics:**

- Understand and use Performance Statistics to explore system usage, gain optimum system performance, and determine system congestion or spare capacity

TSC Archiving and Footprinting facilities



### Purpose

- The purpose of this course is to provide on-site maintenance staff with detailed knowledge required to use and maintain the TSC and its peripherals

### Pre-requisite:

Celerity Overview

### Who Should Attend:

TSCCentral Site Administrators

### You Will Learn How To

- Understand TSC hardware configuration and how it interfaces within the Celerity system
- Locate and remedy TSC errors using diagnosis and troubleshooting tools
- Maintain and troubleshoot the TSC and peripherals

### Course Content

#### TSC Hardware:

- Install/remove/replace all equipment involved including setting jumpers on the V.24 ports, distribution fuses, install Sun X.25 interface patch panel

#### TSC Software:

- Install Solaris operating system, Solaris hardware diagnostics package, use the Probe-SCSI check, install the TSC application

#### TSC Configuration:

- Configure dummy switch to test the TSC application install
- Configure Xyplex 9000 chassis, Terminal Server Card, Terminal Server Port, X.25 gateway, ISDN, Maintenance Modem, Xyplex Communication Card, starting the TSC application, install Sun x.25 software, change TSC host name or network address

#### TSC Administration

- Access administrator account, check TSC software processes, Stop and Start TSC application, back up TSC using Application Backup and Full System Backup, Restore from Application and Full system backups, set Administrator account password, Load MU software onto the TSC, configure printers and alarming

#### TSCNET

- Understand how networked TSCs communicate, locate DN and ENs on remote TSCs, display the state of the network, force an announcement, control the Finder process' use of the network, update the tscmap file

#### UNIX Utilities

- Modifying the netmask, change the default router, access the log files

#### Technical Reference

- TSC hazard locations, TSC cabling and SCSI bus, connections, maintenance schedules

#### TSC Troubleshooting

- Use the Troubleshooting Quick Reference Guide flowcharts to diagnose and troubleshoot faults dependent on physical access to the TSC



### Purpose

The purpose of this course is to enable off-site maintenance engineers and system administrators to provide maintenance on a day to day basis

### Pre-requisite:

Celerity Overview

### Who Should Attend:

TSC Remote Administrators  
TSC Central Site Administrators  
(Optional)

### You Will Learn How To

- Understand TSC Maintenance Command structure in order to maintain the system
- Understand how to use the TSC in order to monitor and maximize system performance
- Understand using the TSC and SUN diagnostic and troubleshooting tools in order to maintain the system

### Course Content

#### LDU Maintenance Tools:

- Checking the DU using diagnostic test, listing status, Up/Down DU, reboot remotely of the DU, use a Sample Line test on an MDU, Download DU code to the DU from the TSC, pass through to DU, use DU local mode commands

#### Switch Access Port (SAP) Maintenance Tools:

- List status of SAPs, Up/Down SAPs, SAP Diagnostic Test, Pass through to the SAP and use switch commands

#### Access Unit (AU) Maintenance Tools

- Up/Down AU, Download site configuration to AU, use AU Diagnostic check, pass through to AU, use AU local mode commands

#### Modem Maintenance Tools:

- Up/Down TSC ports, use Modem Diagnostic Check, Pass through to Modem and use Modem commands

#### Terminal Server Maintenance Tools

#### Configure Printers

#### TSC Alarming:

- Configure alarming, use alarming messages to monitor the system, understand alarming error messages as a system maintenance diagnostic tool

#### Maintenance Schedules

#### Performance Statistics:

- Understand and use Performance Statistics as a System Maintenance diagnostic tool

#### System Troubleshooting:

- Use the System Troubleshooting Quick Reference Guide flowcharts as a way to diagnose and troubleshoot system problems, understand and work with system error messages, particularly with SAPs and DUs



**Purpose**

The purpose of this course is to provide a training program and the basic tools required by trainers to assist them in training personnel in the operational use of the TSC.

**Pre-requisite:**

Celerity Overview

**Who Should Attend:**

TSC Trainers

**You Will Learn How To**

- Train all users of the TSC and Celerity system
- Understand what equipment and materials are required to prepare for and deliver TSC user training
- Understand Celerity procedures (and local practices) for all TSC users

**Course Content**

- Discuss materials to be used for end-user training
- Set up Training user accounts
- Set up site configuration
- Set up LDUs
- Set up Artificial Lines
- Perform limited troubleshooting
- How specific telephone equipment is connected to the Telco's network and the Celerity responses to this equipment when measured
- Covers standard tests (as examples) and their associated test results and will be able to explain these results
- Covers how the trainer will be able to set up his/her own class exercises



**Purpose:**

The purpose of this course is to provide the training required to enable Telephone Company Maintenance and Information Services personnel to configure and maintain a Test System controller that is connected to the Telco's network.

**Pre-requisite:**

Background in computers, familiarity with command line interface, operations of a mouse and a windowing environment

**Who Should Attend:**

TSC Administrators

**You Will Learn How To**

- Gain the knowledge required to maintain the UNIX files system and administer UNIX accounts
- Understand the VI editor and the windowing environment
- Understand how to setup network printers, connect to other systems on the network (Telnet) and transfer files via FTP

**Course Content**

- Maintain the UNIX file system
- Use the VI editor
- Administer UNIX accounts
- Navigate the Windowing environment
- Use the Windowing environment text editor
- Transfer files via the File Transfer Protocol (FTP)
- Connect to other systems on the network (Telnet)
- Set up network printers
- Get information on the operation of the TSC applications



### Purpose

- The purpose of this course is to prepare the designated Celerity Staff Project Managers to design and manage Celerity
- Prepare Managers to create practices and procedures that maximize the use of Celerity's potential
- Prepare Managers to give quality service through preventative maintenance
- Managers can evaluate performance & results

### Pre-requisite:

None

### Who Should Attend:

Managers

### You Will Learn How To

- Understand the role of Celerity as part of an overall service strategy
- Operate the Celerity system competently in accordance with Celerity procedures
- Analyze information provided by Celerity, thus providing guidance on its use and how to maximize its benefits
- Provide guidance to the various departments on the use of Celerity

### Course Content

- Modify batch test job, specifications and reports
- Utilize the TSC Routine to achieve telco objectives
- Utilize the Reports to achieve telco objectives
- Utilize TSC Batch Line Testing to achieve telco objectives
- Implement and supervise testing procedures to achieve telco objectives
- Evaluate system usage and operation
- Monitor system performance
- Maintain the TSC Line Record Database
- Broadcast TSC messages
- Maintain TSC report schedules
- Generate and print TSC reports on demand



**Purpose:**

**This course is intended for trainers who already have taken the courses through which they became Celerity trainers. After having followed this course, trainers will be able to update their training packages to incorporate the changes made to the Celerity system.**

**Pre-requisite:**

**Celerity Overview  
Train the Trainer**

**Who Should Attend:**

**Trainers**

**You Will Learn How To**

- **Understand the concept of Celerity**
- **Understand the dispatch rules as applied in Celerity**
- **Understand the new dispatch algorithms as introduced by Celerity**
- **Create practical exercises for demonstrating the new Celerity dispatches**
- **Understand the new signatures for specific equipment**

**Course Content**

- **Introduction to Celerity basic concept**
- **New dispatches**
- **New signatures**
- **Practical examples**
- **Discussion and preparation of training materials**



## Purpose:

This course is intended for end-users, who have already taken the User Training and now have to start working with the Celerity. The class is intended for end-users as well as administrators.

## Pre-requisite:

Celerity Overview  
TSC User Training

## Who Should Attend:

TSC Test Operators  
TSC Administrators

## You Will Learn How To

- Understanding the concept of Celerity
- Understand the dispatch rules as applied to Celerity
- Understand the new dispatch algorithms as introduced by Celerity
- Understand the new signatures for specific equipment
- Perform and practice exercises for demonstrating the new dispatches and signatures

## Course Content

- Introduction to Celerity basic concept
- New dispatches
- New signatures
- Practical examples

# Broadband Test Division Customer Service Centers



## United States

Deerfield, Illinois

847-940-9000

## United Kingdom

Bracknell, Berkshire

44-1344-725800

## Germany

Wuppertal

49-202-273340

## Belgium

Antwerp

323-233-9271

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