



# Meridium Software Training Catalog

April 11, 2011

## Explanation of Course Numbers

Meridium changes course names from time to time to follow new naming conventions in our product, to reflect the conventions of a Packaged Solution, etc. Course numbers and names are also assigned based upon changes in the language used in the product.

1000 Level Courses	User and entry level courses
2000 Level Courses	Advanced User, Super User, Administrator and other advanced roles
3000 Level Courses	Advanced Topics
Courses with <b>5</b> as Second Digit e.g. <b>2501</b> Meridium - Administration	Indicates a new course version based upon the Packaged Solution Best Practice Workflow.
Courses with a <b>7</b> as Second Digit e.g. <b>1701</b> APM Framework -User	Indicates a new course version based upon the Packaged Solution Best Practice Workflow <b>where the course name has been changed.</b>

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# APM Configuration Manager (Formerly Meridium - Administration)

## Course #2701

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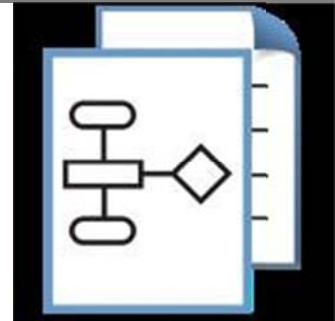
### Course Details

**Length:** 2 days

**Prerequisite:** APM Framework - User

**Benefits:** You will learn the necessary knowledge and skills to configure and maintain a Meridium database.

**Audience:** Administrators, Implementers



### Overview

#### The Configuration Manager

A well-designed database configuration results in improved system usability. You will use the Configuration Manager to work with a data hierarchy, entity families, datasheets, and ID Templates.

#### Database Configuration

You will use Configuration Manager tools to generate physical tables and views. You will create System Code Tables to provide easy access to frequently-used values. You will learn how to use field behaviors to generate pick-lists, auto-populate values, and validate data entries. You will use the Import/Export utility to copy metadata from one schema to another.

# APM Configuration Manager

## Course #2701

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### Day One Training Agenda

#### Entity Families

- Creating entity families
- Creating Numeric, Character, Date, and Logical type fields
- Utilizing data spreading
- Creating default and custom datasheets
- Adding datasheet sections
- Adding multi-columned datasheet sections

#### Managing the Physical Structure

- Identifying database changes
- Building scripts to generate physical tables
- Modifying existing tables based on database changes
- Recreating family views
- Deleting metadata vs. physical tables

#### Managing Relationships

- Creating relationship families
- Setting relationship rules
- Designating cardinality

#### Managing System Code Tables

- Reviewing existing system code tables
- Creating system code tables and codes
- Sequencing system codes
- Adding system code references

### Day Two Training Agenda

#### Managing Field Behaviors

- Required Field Behavior
- Disabled Field Behavior
- Default Field Behavior
- Validation Field Behavior
- Valid Values Field Behavior
- Format Field Behavior
- Calculations

#### Understanding Metadata

- The Meridium Metadata Tables
- How metadata is used
- Building queries to retrieve metadata

#### The Import/Export Utility

- Overview of Import/Export functionality
- Exporting entity families
- Exporting data fields or spread fields
- Exporting relationships
- Exporting System Code Tables
- Exporting Queries, Reports, etc.
- Importing metadata from an external file

#### Security

- Designing a Security Configuration
- Creating Application User and User Groups
- Adding Catalog Directories
- Granting Data Permissions to Application Users and Groups
- Granting Relationship Privileges
- Creating Super Users

## APM Configuration Manager - Business Rules Course #2706

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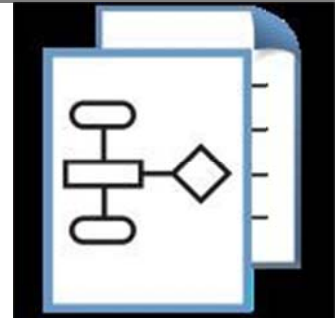
### Course Details

**Length:** 3 days

**Prerequisite:** APM Configuration Manager.

**Benefits:** You will learn how to enhance a Meridium database by adding and maintaining Field Level and Family Level Business Rules.

**Audience:** Implementers, Administrators



### Overview

#### Working within the VSA Environment

You will explore an existing Business Rule to learn how to navigate the VSA environment and to become familiar with its available functions and features.

#### Field Behaviors

You will learn how to use a field behavior to disable a field, make a field required, or populate a field with a default value. You will also learn how to use a field behavior to generate field pick-lists or validate user-entered values.

#### Utilizing Family Level Business Rules

At the family level, you will learn how to create Business Rules that generate new relationships, calculate values, or send e-mail notifications. You will also learn how to add error handling to rules and use the rule debugger to troubleshoot problems within rules.

# APM Configuration Manager – Business Rules

## Course #2706

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### Day One Training Agenda

#### IDE Overview

- Objects and Classes
- The Code Editor
- The Project Explorer
- The Task List and Output Windows
- Using bookmarks

#### Navigating the IDE

- Accessing an existing family level rule
- Using Search tools within a project
- Adding bookmarks for quick access to code

#### Adding Field Behaviors

- Setting Required Field Behaviors as Always Required or based on another field value
- Setting Default Field Behaviors as a literal value
- Setting Default Field Behaviors to display the current date, current user, or parent family
- Setting Disabled Field Behaviors as Always Disabled or based on another field value
- Setting Valid Values Field Behaviors to generate a pick-list based on a static list of values or System Code Table and References
- Setting Valid Values Field Behaviors to generate a pick-list based on a SQL Command or Stored Command with/without parameters
- Formatting date and numeric field values
- Building calculations on date and numeric fields

### Day Two Training Agenda

#### Adding Field Behaviors (cont'd)

- Setting Validation Field Behaviors to validate a numeric field value
- Using a Case Statement to validate a field value against multiple values or to create a date range validation

- Comparing numeric values

#### Using Error Handling

- Adding the Try/Catch block
- Detecting and handling errors & exceptions

#### Working with the Debugger

- Setting Debugger options
- Running a rule in Debug mode
- Using the Quick Watch feature

### Day Three Training Agenda

#### Family Level Rules Overview

- After Insert and Before Insert Rules
- After Update and Before Update Rules
- After Delete and Before Delete Rules

#### Family Level Rules

- Dimensioning variables and objects
- Using Public variables
- Using an After Insert Rule to auto-generate relationships
- Using a Before Update Rule to delete existing relationships
- Using an After Update Rule to create a new relationship
- Adding Meridium References
- Using an After Update Rule to send an e-mail notification

#### Macros

- Creating Macros
- Modifying the Macro Form
- Modifying the Macro Code

## APM Framework - User (formerly Meridium - User)

### Course #1701

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#### Course Details

**Length:** 2 days

**Prerequisite:** None

**Benefits:** You will learn about the APM Framework tools, features and workflows that comprise the Meridium APM Framework module.

**Audience:** All Users



#### Overview

##### **APM Framework Tools**

You will learn about the APM Framework core tools, including Home Pages, Record Manager, and the Catalog. You will also learn how to create, save and modify queries, datasets, graphs, and reports.

##### **Core Analysis**

You will use queries and other core tools to identify bad actors for strategy management and evaluation purposes.

##### **Recommendation Management**

You will learn how to create, reconcile, review and implement recommendations in Meridium.

##### **Asset Criticality Analysis**

You will learn how to assess asset and system criticality. You will create both a new asset criticality analysis and system criticality analysis.

# APM Framework - User

## Course #1701

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### Day One Training Agenda

#### Introduction

- Meridium Core Tools & Features
- Utilizing Meridium APM Framework Help

#### Home Pages

- Customizing your Personal Home Page
- Group Home Pages

#### The Catalog

- Catalog Objects
- Navigating & Searching the Catalog
- Using the Send To Feature to Link Catalog Objects
- Creating Personal Subfolders

#### Searches

- Running Stored Searches
- Sorting & Grouping Search Results
- Printing Search Results
- Building Keyword, Simple, & Advanced Searches

#### Record Manager

- Navigating the Record Manager
- Viewing the Revision History for a Field
- Viewing Reference Documents
- Linking a Reference Document to a Record
- Using the Bulk Data Form to View Data
- Viewing a Configured Explorer
- Navigating a Master Detail Datasheet

#### Queries

- Running & Editing Stored Queries
- Sorting & Grouping Query Results
- Exporting Query Results to a File
- Building a Simple Query
- Modifying a Query and Adding Query Criteria
- Building a Relationship Query
- Adding & Modifying a Query Parameter

### Day Two Training Agenda

#### Queries (continued)

- Adding Date Criteria
- Building a Calculated Field
- Building a Summary Query
- Building a Multi-Relationship Query
- Adding Hyperlinks to Query Results

#### Datasets

- The Dataset Builder
- Creating a Dataset from Query Results
- Importing a Dataset from an External File

#### Graphs and Reports

- Running Stored Graphs & Reports
- Building and Modifying Graphs
- Exporting a Graph to a Bitmap

#### Core Analysis

- Strategy Evaluation
- Viewing a Query that Generated a Conditional Alert
- Building a Query & Formatting Results as a Graph

#### Asset Criticality Analysis

- Assessing Asset and System Criticality
- The Asset Criticality Workflow
- Creating a New Asset Criticality Analysis
- Creating an Asset Criticality Analysis System
- Assessing System Risk
- Promoting an Asset Criticality Analysis to ASM
- Promoting an ACA System to ASM

#### Recommendation Management

- Creating a General Recommendation
- Updating a Recommendation
- Reconciling a Recommendation
- Reviewing Recommendations
- Implementing Recommendations

## Asset Strategy Management & Implementation - User Course #1517

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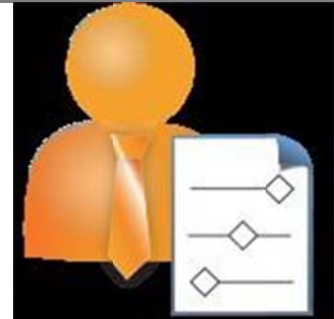
### Course Details

**Length:** 1.5 days

**Prerequisite:** None

**Benefits:** You will learn how to use Meridium Asset Strategy Management to build and implement strategies at the Asset, System, or Unit Level.

**Audience:** General Users, Implementers, Administrators



### Overview

#### **Creating Asset Strategies**

You will learn how to create Asset Strategies, which are collections of Actions performed against an asset in order to mitigate Asset-related risks.

#### **Implementing Asset Strategies**

Once you have defined and validated Asset Strategies in Asset Strategy Management (ASM), you will use Asset Strategy Implementation (ASI) to deploy them to execution systems such as SAP.

#### **Implementation Packages**

You can combine multiple Asset Strategies into an Implementation Package and then implement them in various work management systems. Implementation packages are tied directly to their associated Asset Strategies in ASM, so any updates to an Asset Strategy will be reflected in the implementation.

#### **Managing Asset Strategies**

You will learn how use basic qualitative risk analysis to evaluate existing plans and determine whether they should be updated to manage risk more effectively.

## Asset Strategy Management & Implementation - User Course #1517

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### Day One Training Agenda

#### **Asset Strategy Management Overview**

- What is ASM?
- ASM Strategy Management Workflow
- ASM Strategy Review Workflow
- ASM & ASI Features
- Viewing an Asset Strategy Overview
- Navigating an Asset Strategy
- Simulating discontinuation of an Action

#### **Creating Asset Strategies**

- Types of Asset Strategy Records
- Building Asset Strategies manually
- Risk Types
- Adding Risks
- Adding Actions
- Reviewing and activating an Asset Strategy
- Importing an existing Plan to create an Asset Strategy

#### **Working With Existing Asset Strategies**

- Assigning a new Action to an existing Asset Strategy
- Assessing Mitigated Risk for an Action
- Modifying an Action
- ASM Reporting
- Exporting a report to PDF
- Proposing an Asset Strategy
- Reviewing and activating an Asset Strategy
- Viewing the Revision History

### Day Two Training Agenda

#### **Asset Strategy Templates**

- Creating Asset Strategy Templates
- Applying Asset Strategy Templates to similar Assets
- Using Templates to apply Risks to an Asset Strategy

#### **System and Unit Strategies**

- Strategy types
- Viewing existing Asset, System, and Unit Strategies
- Creating a System Strategy
- Activating Asset Strategies that comprise a System Strategy

#### **Creating a Unit Strategy**

#### **RCM/FMEA Integration**

- Integrating RCM/FMEA Recommendations into ASM
- Reviewing FMEA Recommendations
- Promoting FMEA Recommendations to Create an Asset Strategy
- Modifying an FMEA associated with an Asset Strategy

#### **Asset Strategy Implementation**

- What is Asset Strategy Implementation?
- The ASI Data Model
- Task Mapping
- Measurement Location Mapping
- Accessing the ASI Start Page

# Calibration Management

## Course #1011

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### Course Details

**Length:** 1 day

**Prerequisite:** APM Framework - User

**Benefits:** You will learn the necessary skills and knowledge to understand and utilize the Calibration Management tool.

**Audience:** General Users, Implementers, Administrators



### Overview

#### Collecting and Executing Calibrations

Calibration results can be collected and stored in Meridium to document the performance of an instrument over time and its compliance to ISO, OSHA, EPA, or other standards.

Calibration results are also used to evaluate calibration cycle time. You will learn how to set up and load manual calibration data into Meridium. You will use the automated Meridium Calibration tool to complete a streamlined calibration process.

#### Schedule Management

You will learn how to create, review, update, and monitor calibration schedules in Meridium. Managing the calibration schedule is key to ensuring that calibrations are performed as planned and that instrumentation performance meets defined standards.

#### Calibration Results

You will learn how to improve the calibration process within your organization and capitalize on the resulting data.

# Calibration Management

## Course #1011

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### Training Agenda

#### **Calibration Management Overview**

- Calibration Management Functions
- Navigating the Instrumentation/Calibration User Home Page

#### **Calibration Schedules**

- Reviewing Calibration Tasks
- Creating a new Calibration Task
- Reporting Past Due or Forecasted Calibration Tasks

#### **Working with Calibrations**

- Manual Calibration Data Entry
- Analog Calibration
- Discrete Calibration
- Weight Scale Calibration
- Multi-Component Analyzer Calibration
- Single-Component Analyzer Calibration
- Data Collection Devices
- Performing Calibrations with Fluke 740 Calibrators

#### **Calibration Templates**

- The Calibration Template that is provided
- Creating a new Calibration Template

#### **Equipment Review**

- Reviewing Instrument Loops and Instrument Locations

#### **Standard Gas Cylinders**

- Managing Standard Gas Cylinders

#### **Test Equipment**

- Managing Test Equipment records

# Failure Modes and Effects Analysis (FMEA)

Course #1007

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## Course Details

**Length:** 1 day

**Prerequisite:** APM Framework - User

**Benefits:** You will learn to use the Meridium Failure Modes and Effects Analysis (FMEA) product.

**Audience:** General Users, Implementers, Administrators



## Overview

### Failure Modes and Effects Analysis

Failure Modes and Effects Analysis (FMEA) is a method used to identify potential equipment failures, describe the likely effect of each failure, and make recommendations for actions that might prevent such failures from occurring.

### Building an FMEA

You will use Meridium tools to build an FMEA consisting of Equipment, Failure Modes, Failure Effects and Recommendations.

### FMEA Templates

You will learn to build FMEA templates, which can streamline the analysis development process by reducing the amount of time you spend entering data.

# Failure Modes and Effects Analysis (FMEA)

## Course #1007

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### Training Agenda

#### **Working with Existing FMEA's**

- Navigating the FMEA Explorer
- Working with Analysis Tasks

#### **Creating an FMEA**

- Defining the Analysis
- Defining the Analysis Team
- Specifying the Equipment to be analyzed
- Adding Failure Modes
- Adding Failure Effects
- Duplicating Analysis nodes

#### **Recommendations**

- Creating Recommendations
- Grouping Recommendations into Tasks

#### **Analysis Re-evaluation**

- Locating Existing Analyses
- Setting Conditional Criteria

#### **FMEA Templates**

- Creating a template based on an existing FMEA
- Loading an FMEA Template
- Linking to Equipment in Meridium

# Inspection Management

## Course #1010

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### Course Details

**Length:** 1 day

**Prerequisite:** APM Framework - User

**Benefits:** You will learn how to utilize the Meridium Inspection tools to document inspections, findings, and recommendations.

**Audience:** General Users, Implementers, Administrators



### Overview

You can use Inspection Management tools to document an historical profile of equipment condition, thus enabling the implementation of more proactive inspection activities in the future. Inspection Management provides tools to:

- Record and report various types of inspections
- Record Findings and Recommendations
- Codify Damage Mechanisms
- Plan Inspection Tasks
- Execute Inspection Workflows

# Inspection Management

## Course #1010

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### Training Agenda

#### **Introduction to Inspection Management**

- Inspection roles and resources
- Inspection Home Pages vs. the Inspection Start Page

#### **Accessing Existing Inspection Data**

- Accessing Inspection Management Functions
- Accessing Full Inspection records
- Navigating Inspection Document Explorers
- Viewing associated Findings, Sub-Inspection records, Inspection Recommendations, Team Members, and Reference Documents

#### **Creating Profiles and Tasks**

- The Typical Full Inspection Workflow
- Creating Inspection Profiles
- Customizing the Proposed and Scheduled Task List
- Hiding and Showing Task Lists

#### **Creating Inspections**

- Creating a Full Inspection
- Documenting Findings
- Inserting a General Finding
- Creating Inspection Recommendations
- Completing General Findings
- Creating a Bundle Sub-Inspection
- Adding Inspection Team members
- Adding Reference Documents

#### **Approving and Publishing Inspections**

- Assigning Inspection records to a Reviewer
- Initiating the Approval of Inspection Documents
- Approving Inspections
- Accessing and approving a Full Inspection
- Publishing Inspections
- Viewing a Published Inspection

#### **Miscellaneous Tasks**

- Using the Inspection Builder
- Deleting Inspection records
- Deleting a Full Inspection record and its Successors

# Meridium Plug-in for DataStage - Interface Manager

## Course #2002

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### Course Details

**Length:** 2 days

**Prerequisite:** Meridium - Administration

**Benefits:** This course will teach you the necessary knowledge and skills to set up and run interface jobs using the Meridium Plug-in for DataStage.

**Audience:** Administrators, Implementers



### Overview

#### **Meridium Plug-in for DataStage Overview**

Meridium Plug-in for DataStage allows you to design, schedule, compile, and run interface jobs. You will become familiar with the available tools by viewing existing jobs.

#### **Designing Interface Jobs**

You will use the Designer to create interface jobs that load data efficiently, while enforcing the data integrity created through Meridium business rules.

#### **Creating Complex Jobs**

You will design and run jobs that transform data before its loaded, load relationship data, allow the data to determine the destination, and move data between families.

#### **Troubleshooting**

You will use tools such as the monitor, job log, reject file, and debugger to identify and correct interface problems.

# Meridium Plug-in for DataStage – Interface Manager

## Course #2002

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### Day One Training Agenda

#### **Meridium Plug-in for DataStage Overview**

- Understanding interface jobs
- Viewing and running existing interface jobs

#### **Designing Interface Jobs**

- Creating a new Interface Job
- Adding links and stages
- Loading data from a sequential file
- Creating and storing data definitions
- Compiling and running jobs
- Extracting information from Meridium

#### **Using the Manager**

- Importing and Exporting Projects
- Importing metadata for ODBC or a Meridium table
- Setting up an ODBC connection to a relational database

#### **Importing Data into Meridium**

- Setting up a Meridium Plug-in
- Importing metadata
- Using Plug-ins to load data into Meridium
- Using an interface job to update records
- Using an interface job to delete records

#### **Using Constraints and Derivations**

- Defining Constraints
- Defining a reject link
- Defining Derivations
- Adding Constraints, Operands, and Operators to a Derivation

### Day Two Training Agenda

#### **Creating Complex Jobs**

- Using interface jobs to insert, update or delete records
- Loading relationship data
- Creating jobs that allow the data to determine the data load destination
- Moving data between Meridium families
- Using Registry queries to export data from Meridium

#### **Using Routines and Transforms**

- Basic Operators and Functions
- System Variables
- Transforming data before it is loaded
- Using Routines to look up family view ID's

#### **Using Hashed Files and Lookups**

- Creating and accessing hashed files
- Defining hashed file lookups
- Creating ODBC lookups

#### **Editing Job Properties**

- Defining job parameters
- Creating a job that controls other jobs
- Creating a batch file

#### **Troubleshooting**

- Monitoring jobs
- Modifying optional settings in the Director
- Using the Debugger
- Troubleshooting a job



## Meridium - Administration

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Please refer to Course #2701 - APM Configuration Manager

## Meridium - User

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Please refer to Course #1701 - APM Framework - User

## Metrics - Administration (SQL 2000)

Course #3005

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### Course Details

**Length:** 2 days

**Prerequisite:** APM Framework - User

**Benefits:** This course teaches the necessary knowledge and skills to configure and use Metrics tools to deliver Key Performance Indicators (KPI's) across your enterprise.

**Audience:** Administrators, Implementers

**PLEASE NOTE:** This course is intended only as an introduction to the use of metrics cubes in Meridium. If an in depth knowledge of designing and building cubes is required we highly recommend that third party training on Microsoft SQL Server Analysis Services be obtained.

### Overview

#### **Metric Cubes**

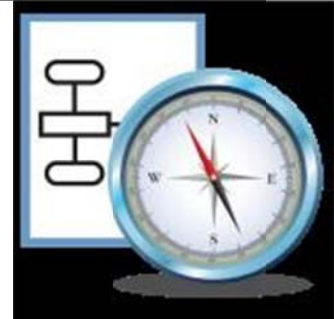
You will learn how to build and utilize Metric Cubes to track your organization's Key Performance Indicators (KPI's). You will define Measures and build Dimensions, Calculated Members, and Virtual Cubes.

#### **Metric Views, KPI's, and Scorecards**

You will learn how to build Metric Views to display selected Metric Cube data. You will build new KPI's, set Target, Stretch, and Critical values for KPI Measures, and link KPI's to Metric Views. You will build Scorecards that graphically depict the current status of organizational objectives.

#### **Metrics Security Administration**

You will grant security privileges that will allow selected users to view and work with Metric Cubes, Metric Views, KPI's, and Scorecards.



## Metrics - Administration (SQL 2000)

### Course #3005

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#### Day One Training Agenda

##### **Building Metric Cubes**

- Creating a SQL Server datasource
- Selecting Fact, Dimension, and Relationship Tables to define a cube
- Defining Measures
- Building Single and Multiple Dimensions
- Saving and processing a Metric cube
- Viewing cube data and metadata

##### **Advanced Cube Options**

- Building Calculated Members
- Enabling the Drillthrough option
- Defining and building Virtual Cubes

##### **Ongoing Administration**

- Counting a Fact Table
- Archiving a database
- Restoring a database

##### **Building Metric Views**

- Building a Metric View based on a Metric cube
- Editing Metric View Properties
- Editing Metric View Measures

#### Day Two Training Agenda

##### **Building KPI's**

- Building a KPI based on cube data
- Building a KPI based on manually-entered data
- Editing Target, Stretch, and Critical values for KPI Measures
- Linking a Metric View to a KPI
- Configuring a KPI Alert

##### **Building Scorecards**

- Building a Scorecard
- Displaying and hiding Scorecard columns
- Re-ordering Perspectives, Objectives, or KPI's on a scorecard
- Attaching a Reference Document

##### **Metrics Security Administration**

- Granting Family and Relationship Privileges in APM Configuration Manager.
- Granting privileges in APM Framework.

##### **Metrics Family Privileges**

- Securing entity families used by Metrics
- Securing relationships used by Metrics

##### **Scorecard Privileges**

- Granting privileges to a scorecard
- Granting View access to KPI's on a scorecard
- Testing Scorecard and KPI privileges

##### **Metric View Privileges**

- Cube Privileges
- Why Metric View Privileges are different
- Granting access to Metric Views from KPI's
- Granting access to Metric Views from the Catalog

## Metrics - Administration (SQL 2005)

Course #3506

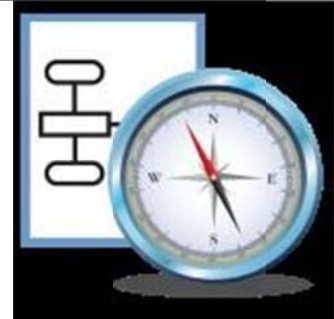
### Course Details

**Length:** 2 days

**Prerequisite:** APM Framework - User

**Benefits:** This course teaches the knowledge and skills needed in order to configure and use Metrics tools to deliver Key Performance Indicators (KPI's) across your enterprise.

**Audience:** Administrators, Implementers



**PLEASE NOTE:** This course is intended only as an introduction to the use of metrics cubes in Meridium. If an in depth knowledge of designing and building cubes is required we highly recommend that third party training on Microsoft SQL Server Analysis Services be obtained.

### Overview

#### **Metric Cubes**

You will learn how to build and utilize Metric Cubes to track your organization's Key Performance Indicators (KPI's). You will define Measures and build Dimensions and Calculations.

#### **Metric Views, KPI's, and Scorecards**

You will learn how to build Metric Views to display selected Metric Cube data. You will build new KPI's, set Target, Stretch, and Critical values for KPI Measures, and link KPI's to Metric Views. You will build Scorecards that graphically depict the current status of organizational objectives.

#### **Metrics Security Administration**

You will grant security privileges that will allow selected users to view and work with Metric Cubes, Metric Views, KPI's, and Scorecards.

## Metrics - Administration (SQL 2005)

### Course #3506

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#### Day One Training Agenda

##### **Building Metric Cubes**

- Defining the Metric Cube structure
- Adding a Data Source & Data Source View
- Creating Relationship Joins
- Adding Members to the query
- Defining Measures
- Dimension Types
- Building hierarchies within a Dimension
- Processing a Metric Cube
- Managing Roles for a Metric Cube
- Defining a Metric Cube in APM Framework

##### **Ongoing Administration**

- Backing up a database
- Restoring a database

##### **Building Metric Views**

- Building a Metric View
- Editing Metric View Properties
- Editing Metric View Measures

#### Day Two Training Agenda

##### **Building KPI's**

- Building a KPI based on a query
- Building a KPI based on cube data
- Building a KPI from manually-entered data
- Editing Target, Stretch & Critical values for KPI Measures
- Linking a Metric View to a KPI
- Configuring a KPI Alert

##### **Building Scorecards**

- Building a Scorecard
- Displaying and hiding Scorecard columns
- Re-ordering Perspectives, Objectives & KPI's
- Attaching a Reference Document

##### **Metrics Security Administration**

- Granting Family and Relationship Privileges
- Granting privileges in APM Framework

##### **Metrics Family Privileges**

- Securing entity families used by Metrics
- Securing relationships used by Metrics
- Adding Metrics Users to User Groups

##### **Scorecard Privileges**

- Granting privileges to a scorecard
- Granting View access to KPI's on a scorecard
- Testing Scorecard and KPI privileges

##### **Metric View Privileges**

- Cube Privileges and Metric View Privileges
- Granting access to Metric Views from KPI's or the Catalog

##### **Managing Additional Privileges**

- Granting family and relationship privileges for managing Metric Objects
- Granting view access to Metric Objects
- Testing privileges to Metric Objects

## Metrics - User

Course #1502

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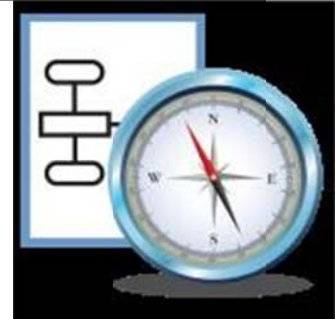
### Course Details

**Length:** 1 day

**Prerequisite:** APM Framework - User

**Benefits:** You will learn how to use Metrics and Scorecards tools to develop and leverage Key Performance Indicators (KPI's) across your organization.

**Audience:** General Users, Implementers, Administrators



### Overview

#### Viewing Key Performance Indicators (KPI's)

You will use KPI tools to view the existing metrics that have been identified as the most important indicators of mission success and organizational performance over time.

#### Scorecards

Scorecard functionality allows you to report the status of your organization's KPI's.

Scorecards facilitate easy access to corporate and group KPI's, thus helping maintain focus on objectives.

#### Metrics

You will use Metrics tools to create data cubes that store data for multiple measures and dimensions. You will learn how to manipulate cubes to view various slices of this data. You will identify bad actors and other areas that require attention. Then you will analyze performance and costs based on various criteria, such as location and manufacturer, and view the results in tabular and graphical formats.

## Metrics - User

### Course #1502

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## Training Agenda

### Introduction

- Navigating Home Pages
- Working with Catalog Directories
- Accessing Metrics and Scorecards
- Exploring Metrics and Scorecards tools

### Scorecards

- What is a Scorecard?
- Opening and navigating a scorecard
- Viewing scorecard data and trends
- Modifying the layout of a scorecard
- Accessing attached reference documents
- Printing scorecard information
- Accessing KPI's from a scorecard
- Accessing scorecards from a home page

### Key Performance Indicators (KPI's)

- Frequency
- Target value
- Data ranges
- Measurement Data

### Metric Views

- What is a Metric View?
- Opening and navigating a Metric View
- Using Drill Up, Drill Down, & Drill Through options
- Using the Site Map
- Viewing, filtering, or sorting underlying data
- Viewing or changing graph properties
- Using Slices to filter results
- Transposing results
- Floating a graph or table
- Reloading a Metric View

### Creating Metric Views

- Selecting Measures and Categories
- Using filters to isolate specific data
- Saving a metric view and linking it to a Home Page

### Working in the Designer Viewer

- Using the Metric Explorer to work with Dimensions
- Using the Metric View Builder
- Adding an element to a view or removing it
- Obtaining cross-join of multiple dimensions
- Calculating a contribution quantity, such as LPO
- Calculating the difference between members
- Creating a custom calculation

# Operator Rounds – Mobile Analyst

## Course #2514

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### Course Details

**Length:** 1 day

**Prerequisite:** OPR – Mobile User

**Benefits:** You will learn how to define Routes, how to set up TML's, and how to complete the Condition Assessment Process.

**Audience:** This course is designed for Mobile Analysts who set up and manage routes used by mobile users.



### Overview

#### Measurement Locations

You will establish Allowable Values to ensure consistent data input. You will use Measurement Location Templates to create Measurement Locations, and then link them to Assets.

#### Route Definition

Defining a mobile's route and linking Measurement Locations to a route. Sequencing Measurement Locations on a route. Activating the route and making it available to a mobile user.

#### Data Analysis

You will use Meridium tools to analyze the data uploaded from the mobile device and manage the recommendations that result from the analysis.

# Operator Rounds – Mobile Analyst

## Course #2514

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### Training Agenda

#### Introduction

- The Operator Rounds data model
- About Allowable Values
- Measurement Location Templates

#### Measurement Location Definition

- Creating Measurement Locations based upon a ML Template
- Creating ML's on Another Asset
- Creating an ML Template
- Adding or Deleting Allowable Values
- Creating a General Housekeeping ML

#### Route Definition

- Creating a Route
- Sequencing and Activating a Route

#### Data Collection

- About the Sync Operation
- Syncing Data and Downloading a Route
- Selecting a Route
- Entering Data and Responding to Alert Conditions
- Collecting Data
- Creating a Recommendation
- Correcting an Alert Condition In Place
- Completing the Downloaded Route
- Completing the Route
- Reviewing and Uploading Data and Recommendations
- Uploading Data to Meridium

#### Data Analysis

- Viewing Uploaded Data in Meridium
- Linking Reference Documents to an ML
- Running Operator Rounds Reports
- Managing Recommendations
- Reviewing Recommendations
- Promoting Recommendations to Actions
- Consolidating and Superseding Recommendations

#### Asset Health Indicators

- The Asset Health Indicators Workflow
- Creating and Viewing Asset Health Indicators
- Creating a Link to the Asset Health Indicators page

#### OPR Administrative Tasks

- Configuring the Security Query
- Specifying Download Settings
- Working with Barcodes

## Operator Rounds – Mobile User

Course #1513

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### Course Details

**Length:** 0.5 day

**Prerequisite:** None

**Benefits:** You will learn the process for transferring data between a hand held device and the APM Framework.

**Audience:** This course is designed for Mobile Users/Inspectors who conduct rounds using a hand held device.



### Overview

#### Data Collection

You will learn how to synchronize data between a hand-held device and the APM Framework. Also covered are selecting a route, entering condition data, accessing reference documents, creating recommendations and closing a route.

#### Viewing Uploaded Data in Meridium

You will navigate various types of Measurement Locations and learn about their associated Limit Values.

#### Other Mobile User Tasks

You will learn how barcodes can be used while conducting rounds.

# Operator Rounds – Mobile User

## Course #1513

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### Training Agenda

#### **Data Collection**

- Accessing the Virtual Machine & Device Emulator
- The Sync Operation
- Syncing Data and Downloading a Route
- Selecting a Route
- Entering Condition Data
- Responding to Alert Conditions
- Accessing Reference Documents for a Checkpoint
- Accessing Reading and Recommendation Histories
- Creating a Standalone Recommendation
- Reviewing Collected Data and Recommendations
- Uploading Data to Meridium

#### **Viewing Uploaded Data in Meridium**

- Allowable Values
- Limit Values for Character-type ML's
- Navigating Character-type ML's
- Limit Values for Numeric-type ML's
- Navigating Numeric-type ML's

#### **Other Mobile User Tasks**

- Barcode ID's

## RCMO - Administration

Course #2010

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### Course Details

**Length:** ½ day

**Prerequisite:** RCMO Administrators should take this course just prior to *RCMO – User*, a companion course. It is important to note that the steps detailed in this course will need to be completed in order to complete the *RCMO – User* course.

**Benefits:** This course will teach Administrators how to configure Reliability Centered Maintenance & Optimization (RCMO).

**Audience:** Implementers, Administrators

### Overview

As RCMO Administrator, you will complete four main administrative tasks:

- Specify application preferences
- Configure one or more Risk Matrices
- Create pick-lists for key fields
- Set the default field configuration for Recommendations



## RCMO - Administration

### Course #2010

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### Training Agenda

#### **Introduction to RCMO Administration**

- RCMO Administrative Tasks
- Accessing the RCMO Administration Page

#### **Application Configuration**

- Configuring the RCMO Application
- Setting Application Configuration Preferences

#### **Matrix Configuration**

- The Default Risk Matrix Configuration
- Exporting and revising the Default Risk Matrix
- Importing the Revises Risk Matrix

#### **List Configuration**

- Field pick-list configuration
- Defining a field pick-list
- Configuring pick-lists to support RCMO-User training

#### **Field Configuration**

- Setting the Default Field Configuration

## RCMO - User

### Course #1006

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#### Course Details

**Length:** 2 days

**Prerequisite:** RCMO Administrators should take this course following *RCMO – Administration*, a companion course. It is important to note that the steps detailed in *RCMO – Administration* will need to be completed in order to complete this course.

**Benefits:** This course is designed to teach you how to use Meridium's Reliability Centered Maintenance & Optimization (RCMO) product.

**Audience:** General Users, Implementers, Administrators



#### Overview

##### RCMO Overview

RCMO allows you to incorporate the results of RCM and FMEA analyses into SAP EAM. It is a Web-based application that can run on the SAP Portal or outside the Portal, within a Web browser.

##### RCMO Tools

You will learn how to use RCMO to integrate RCM or FMEA Recommendations into SAP Maintenance Plans, Maintenance Items, and Notifications. You will utilize a configurable risk matrix, which allows you to specify what is most crucial for your operation based on your business needs.

##### Import/Export Facility

RCMO provides an import/export facility that allows you to create analysis templates in Microsoft Excel. This feature can help improve the efficiency of the RCM or FMEA development process by allowing you to re-use existing analysis information.

##### Reporting

A set of standard reports are provided with RCMO, which you can use to summarize analysis results.

## RCMO - User

### Course #1006

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#### Day One Training Agenda

##### **Introduction to RCMO**

- Accessing the RCMO Application
- Navigating the main links
- Performing searches
- Navigating an RCM Analysis
- RCM analysis vs. FMEA

##### **Building an RCMO Analysis**

- Adding external references
- Associating existing SAP Technical Objects
- Working with RCMO Roles and Analysis Teams
- Adding and managing team members, both SAP Users and non-SAP Users
- Defining RCM Analysis components
- The recommended RCMO workflow
- Defining Functions of the system
- Defining Functional Failures
- Defining Failure Modes
- Consequence Evaluation and Task Decision
- Defining Failure Effects
- Defining Recommendations
- Viewing the Analysis Summary

#### Day Two Training Agenda

##### **Implementing an RCMO Analysis**

- Implementing a Recommendation with a new or existing SAP Maintenance Plan
- Implementing a Recommendation with a new or existing SAP Maintenance Item
- Implementing a Recommendation by auto-generating an SAP Notification
- Completing the Analysis Implementation

##### **RCMO Reporting**

- RCMO Reports Overview
- Accessing and viewing existing reports
- Executing reports and navigating the results

##### **Importing/Exporting Analyses**

- Import/Export Overview
- Exporting Analyses to XML
- Importing Analyses from XML

##### **RCMO Excel Add-in**

- The RCMO Excel Add-in
- Accessing and creating a new analysis
- Importing an analysis created with the RCMO Excel Add-in

# Reliability Analytics - Automation Rules (ORA)

Course #2020

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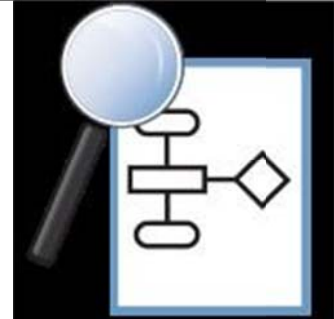
## Course Details

**Length:** ½ day

**Prerequisite:** Reliability Analytics - User

**Benefits:** This course will teach you how to use Reliability Automation Rules to auto-generate a Reliability Distribution, Growth Analysis, or Cost of Unreliability Analysis for an asset or population of assets.

**Audience:** Implementers, Administrators



## Overview

### **Working with Existing Automation Rules**

You will navigate the Summary screen to learn about the available options in the Rule Builder, Rule Criteria, and Rule Information sections.

### **Building Automation Rules**

You will learn the requirements for the Master Queries used by Reliability Automation Rules and build an Automation Rule based on one. You will also build an Automation Rule based on the Asset-Event Data Structure.

### **Executing Automation Rules**

You will use learn how to execute Automation Rules and merge or unmerge the resulting analyses.

# Reliability Analytics - Automation Rules (ORA)

## Course #2020

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### Training Agenda

#### **Required Security Groups and Privileges**

- Reliability Automation Rule Data Model

#### **Accessing Existing Reliability Automation Rules**

- Listing Reliability Automation Rules
- Available Options and common tasks

#### **The Summary Screen**

- Navigating the Rule Builder, Automation Rule Criteria, and Rule Information sections

#### **Building Reliability Automation Rules**

- Master Queries for Reliability Automation Rules
- Requirements for Master Queries
- Population Grouping

#### **Automation Rules based on Queries**

- Building an Automation Rule based on a query

#### **Automation Rules based on Asset-Event Data**

- Accessing data via the Reliability Automation Rules Builder
- Specifying the desired Reliability document type
- Choosing the level at which the analysis should be performed
- Identifying necessary fields for the analysis
- Applying filters

#### **Executing Automation Rules**

- Executing one or more Reliability Automation Rules
- Merging or unmerging the resulting analyses
- Deleting Reliability Automation Rules

## Reliability Analytics - Automation Rules (SQL)

Course #2016SQL

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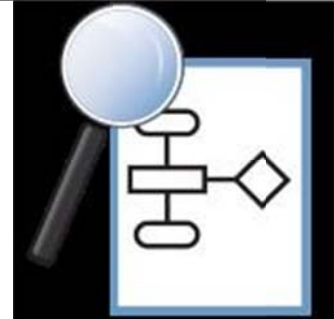
### Course Details

**Length:** ½ day

**Prerequisite:** Reliability Analytics - User

**Benefits:** This course will teach you how to use Reliability Automation Rules to auto-generate a Reliability Distribution, Growth Analysis, or Cost of Unreliability Analysis for an asset or population of assets.

**Audience:** Implementers, Administrators



### Overview

#### **Working with Existing Automation Rules**

You will navigate the Summary screen to learn about the available options in the Rule Builder, Rule Criteria, and Rule Information sections.

#### **Building Automation Rules**

You will learn the requirements for the Master Queries used by Reliability Automation Rules and build an Automation Rule based on one.

You will also build an Automation Rule based on the Asset-Event Data Structure.

#### **Executing Automation Rules**

You will use learn how to execute Automation Rules and merge or unmerge the resulting analyses.

# Reliability Analytics - Automation Rules (SQL)

## Course #2016SQL

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### Training Agenda

#### **Required Security Groups and Privileges**

- Reliability Automation Rule Data Model

#### **Accessing Existing Reliability Automation Rules**

- Listing Reliability Automation Rules
- Available Options and common tasks

#### **The Summary Screen**

- Navigating the Rule Builder, Automation Rule Criteria, and Rule Information sections

#### **Building Reliability Automation Rules**

- Master Queries for Reliability Automation Rules
- Requirements for Master Queries
- Population Grouping

#### **Automation Rules based on Queries**

- Building an Automation Rule based on a query

#### **Automation Rules based on Asset-Event Data**

- Accessing data via the Reliability Automation Rules Builder
- Specifying the desired Reliability document type
- Choosing the level at which the analysis should be performed
- Identifying necessary fields for the analysis
- Applying filters

#### **Executing Automation Rules**

- Executing one or more Reliability Automation Rules
- Merging or unmerging the resulting analyses
- Deleting Reliability Automation Rules

# Reliability Analytics - Concepts Workshop

Course #2017

## Course Details

**Length:** 3 days

**Prerequisites:** None

**Benefits:** This course is designed to teach you about data and tools you can use to improve the outcomes of your Reliability initiative.

**Audience:** Implementers, Administrators, Reliability Engineers, Reliability Managers, Maintenance Engineers, or Maintenance Managers.

## Overview

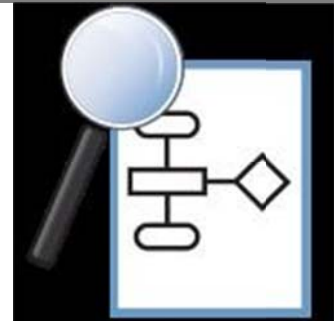
### Evaluating your Current Initiatives

You will learn the concepts underlying Reliability Analysis of assets and how you can apply the available tools to answer questions such as:

- Is reliability improving, staying the same, or getting worse?
- What maintenance intervention might help reduce failures?
- What is the impact of changes made to our reliability strategy and execution?
- Is our chosen analysis method the best to use with the available data?
- Is it possible mixed failure modes are involved?
- How much opportunity is there for increased production?

### Equations, Proofs, and Theorems

Class exercises and examples will be used to demonstrate concepts, and the results will be plotted on diagrams or graphs. Rigorous mathematical equations, proofs, and theorems will not be necessary.



# Reliability Analytics – Concepts Workshop

Course #2017

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## Day One Training Agenda

### Defining Failures

- Function defines Failure
- Identifying and analyzing Failure Modes
- Failure Effects

### Defining Reliability

- MTTF & Failure without Replacement
- MTBF & Failure with Replacement
- Reliability vs. Availability
- Reliability vs. MTBF
- Constant Rate Failure

### Data Collection

- Key Time Stamps
- Data required for tracking Asset Reliability

### Reliability Data Analysis

- Six patterns of Failure
- Why use Distribution Analysis?
- Why use Crow-AMSAA?
- Distribution vs. Growth Analysis

### Distribution Characteristics and Functions

- Normal, Exponential, Lognormal, Weibull
- Three classes of Failure
- Exercise: Weibull by Hand

## Day Two Training Agenda

### Goodness of Fit Tests

- Goodness of Fit Test examples & testing methodologies
- Exercise: Choosing the Best Distribution

### Preventive Maintenance Strategies

- Failure Replacement Cost
- Failure Trends & Cost of Reliability
- Exercise: Using PM Optimization

### Weibulls: The Good, the Bad, and the Ugly

- Causes of “Dirty” Weibull Plots
- Exercise: Downward Curving Plots
- Exercise: Non-zero Time Origins

### Data Censoring and Suspensions

- Data censoring & Weibull Plots
- Failure data in TTF Rank Order
- Exercise: Censoring and Suspending Data in Growth and Distribution Analyses

## Day Three Training Agenda

### Group Activity

- Fatigue Failure and Accelerated Testing

### Weibull Production Analysis

- Daily Production Weibull
- “Six Sigma” Chemical Process

### Crow-AMSAA Growth Modeling

- Reliability Growth Modeling
- Crow-AMSAA Model Parameters
- Cumulative Data Log-Log Plots
- Crow-AMSAA Beta Rules
- Tracking Reliability Improvements
- Crow-AMSAA vs. Weibull

### Monte Carlo Simulation

- Applications and Examples
- Exercise: Building a System Model and performing Monte Carlo Simulation

# Reliability Analytics - Spares Analysis

## Course #1016

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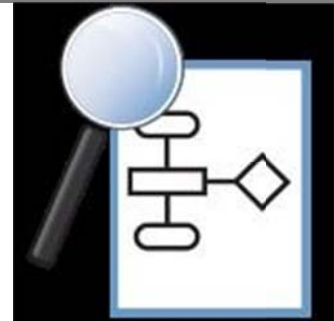
### Course Details

**Length:** ½ day

**Prerequisite:** Reliability Analytics - User

**Benefits:** You will learn how to use the Spares Analysis tool to determine the most cost-effective inventory level for a given spare part.

**Audience:** General Users, Implementers, Administrators



### Overview

#### Spare Parts Inventory Level

The key to a successful Spares program is maintaining a balance between having enough spare parts on hand for unplanned failures, yet not having a surplus. You can use the Spares Analysis tool to determine the optimal number of spare parts that should be kept on hand for a piece of equipment.

#### The Spares Analysis Tool

The Spares Analysis tool calculates an optimal spares level based on Delivery Time and Cost, Downtime, Lost Production Cost, and Failure and Repair Data. You can also simulate the potential savings or losses associated with changing the spares level.

# Reliability Analytics – Spares Analysis

## Course #1016

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### Training Agenda

#### **Spares Analysis Overview**

- The Spares Analysis Data Model
- Opening an Existing Spares Analysis
- Navigating a Spares Analysis

#### **Spares Analysis Plots**

- Accessing Spares Analysis Plots
- Spares Level Plot
- Downtime Plot
- Spares Usage Plot
- Sensitivity Plot
- Optimal Holding Plot
- Copying records to, or deleting records from, the Spares Analysis Tree

#### **Building a Spares Analysis**

- The Spares Analysis Workflow
- Creating or deleting Spares Analyses
- Adding a Spare record
- Adding Spare Application records
- Importing a Distribution Analysis
- Adding Spare Application Population records
- Running a Monte Carlo Simulation

#### **Interpreting Spares Analysis Results**

- Interpreting Spares Analysis Plots
- Exporting Results to a Dataset for viewing
- Exporting and viewing the Event Log
- Event Log columns
- Exporting the Event Log
- Spares Analysis Reports

# Reliability Analytics - System Reliability Analysis

## Course #1015

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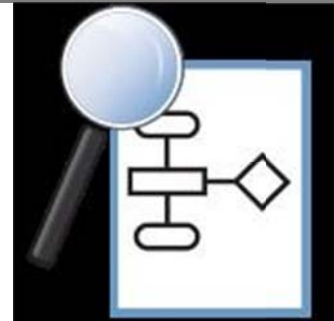
### Course Details

**Length:** 1 day

**Prerequisite:** Reliability Analytics - User

**Benefits:** This course provides an introduction to System Reliability tools, which you may use to analyze maintenance, predictive, and process data for equipment in a system.

**Audience:** Managers, General Users



### Overview

#### System Reliability Analysis

You will build a simple System Reliability Analysis and learn how to refresh System Reliability Analysis results. You will build Ad-hoc Elements for a System Model and enter properties for them.

#### Monte Carlo Simulations

You will work with Monte Carlo Simulation Settings and learn how to interpret the Simulation results in a Histogram view. You will learn how to change the Confidence Level and view the Event Log for a single iteration. You will also change the Analysis Period to simulate the impact.

#### Parallel Components

You will add Parallel Components to the System Model and link Reliability Distributions to them.

#### Production Contribution

You will learn how Production Contribution is used to calculate the overall Production Loss of the system when one or more parallel elements are down, and how to account for Production Contribution.

#### Adding Spares to a System Model

You will learn how to add Spares, Switches and Sensors to a System Model.

# Reliability Analytics – System Reliability Analysis

## Course #1015

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### Training Agenda

#### **System Reliability Analysis**

- Building a simple System Reliability Analysis
- The System Model Palette
- Refreshing System Reliability Analysis results
- Entering System Model Data in the Grid Mode

#### **Monte Carlo Simulations**

- Monte Carlo Simulation Settings
- Viewing Monte Carlo Simulation results in a Histogram
- Changing the Confidence Level
- Viewing the Event Log for an Iteration
- Changing the Analysis Period
- Viewing Impact information

#### **Parallel Components**

- Adding Parallel Components to a System Model
- Setting Properties for Parallel Components
- Adding a Link to the System Model
- Linking Reliability Distributions to Parallel Components

#### **Production Contribution**

- Calculating overall production loss of the system when one or more parallel elements are down

#### **Adding Spares to a System Model**

- Adding a Spare Pump to a System Model
- Adding Switches and Sensors to a System Model

# Reliability Analytics - User

Course #1003

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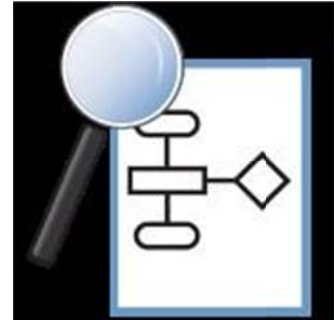
## Course Details

**Length:** 1 day

**Prerequisite:** APM Framework - User

**Benefits:** You will learn the necessary knowledge and skills to utilize Reliability Analytics tools for the analysis of existing maintenance, design, predictive, and process data.

**Audience:** General Users, Implementers, Administrators



## Overview

### Optimizing Operations & Maintenance Strategies

Reliability Analytics provides tools that can help you analyze data, develop operational and maintenance strategies, and evaluate the effectiveness of those strategies over time.

### Mining Reliability Data

You can query the data currently in your database to perform a number of analyses that will help you identify reliability problems.

### Data Analysis

Once you have identified a reliability problem and built a query, you can apply Statistical Reliability methods. Wizards make it possible to quickly build analyses, including Growth, Weibull, Cost of Unreliability, and Production Analyses.

# Reliability Analytics - User

## Course #1003

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### Training Agenda

#### **Introduction to Reliability**

- Key terms
- Component Reliability Workflow

#### **Identifying Bad Actors**

- Using Pareto Analysis to identify bad actors
- Creating a Metric View

#### **Reliability Analysis Queries**

- What is a Reliability Analysis Query?
- Building a Reliability Analysis Query

#### **Growth Analysis**

- Building a Growth Analysis
- Viewing Growth Analysis Results

#### **Weibull Analysis**

- Weibull Distribution
- Building a Weibull Analysis
- Viewing Time to Failure Distribution Results
- Viewing Time to Failure Plots
- Viewing Time to Repair Distribution Results
- Calculating Failure Probability
- Preventive Maintenance Optimization
- Using the PM Optimization Tool

#### **Cost of Unreliability Analysis**

- What is a Cost of Unreliability Analysis?
- Building a Cost of Unreliability Analysis
- Viewing Cost of Unreliability Results
- Viewing Cost of Unreliability Plots
- Building and Viewing Cost of Unreliability Trend Plots
- Building a Probability Distribution
- Censoring Data
- Censoring Outlying Datapoints

#### **Production Analysis**

- Accounting for the Reliability of Operational Processes
- Production Analysis Data Model
- Creating a Production Analysis based on a Dataset
- Accessing Production Data
- Adding Production Lines, Demonstrated Lines, Process Reliability Lines, and Nameplate Lines
- Calculating the Cost of Lost Production
- Changing the Margin Currency or Margin Value
- Adding Breakpoints
- Ignoring Datapoints
- Adding Custom Lines
- Grouping Production Data
- Grouping data by Column Values
- Interpreting Production Weibull Results

# Reliability Centered Maintenance (RCM)

Course #1505

## Course Details

**Length:** 1 day

**Prerequisite:** APM Framework - User

**Benefits:** This course is designed to teach you how to use Meridium's Reliability Centered Maintenance product.

**Audience:** General Users, Implementers, Administrators



## Overview

### Reliability Centered Maintenance

Reliability Centered Maintenance (RCM) is a methodology for identifying equipment strategies that promote maintainability and reliability. RCM provides the means to determine optimal maintenance and operational strategies for equipment based on the probability and consequence of its failure modes.

### RCM Analyses

You will navigate an existing RCM Analysis to become familiar with its functionality. Then you will set up a new RCM Analysis and create its associated Functions, Functional Failures, Failure Modes, Failure Effects, and Recommendations.

# Reliability Centered Maintenance (RCM)

## Course #1505

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### Training Agenda

#### **Viewing an Existing RCM Analysis**

- Launching RCM
- Accessing and navigating an RCM Analysis

#### **Building an RCM Analysis**

- Adding an RCM Analysis record
- Linking Reference Documents and creating an Analysis Team
- RCM/FMEA Assets vs. Assets
- Setting up RCM Assets for an Analysis
- Copying an RCM Asset record to create a new one
- Adding Functions
- Adding Functional Failures
- Adding Failure Modes
- Adding Failure Effects
- Defining Unmitigated Risk
- Using the Decision Logic Builder
- Copying and Revising Analysis Nodes
- Adding Recommendations
- Assessing Mitigated Risk

#### **Integrating Recommendations into ASM**

- Integrating RCM Recommendations into Asset Strategy Management
- Promoting RCM Recommendations to Actions

#### **RCM Templates**

- What are RCM Templates?
- Creating an RCM Template
- Loading an RCM Template

# Root Cause Analysis

Course #1004

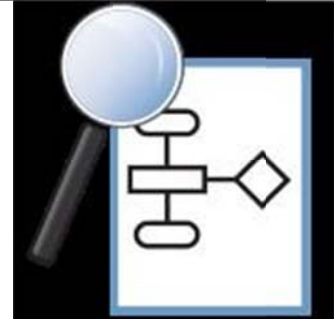
## Course Details

**Length:** 1 day

**Prerequisite:** APM Framework - User

**Benefits:** This course will teach you the necessary skills to use the PROACT® for Meridium tools to identify the root causes of failure.

**Audience:** General Users, Implementers, Administrators



## Overview

### Creating a Root Cause Analysis

You will create a Root Cause Analysis. You will add team members, assign responsibilities, and build a logic tree to define and analyze the possible causes of failure.

### Documenting Analysis Outcomes

You will document the outcome of your findings and link external files to the analysis, such as photographs or drawings.

### Communicating Analysis Results

After your team has completed the analysis, you will summarize and communicate findings and solutions to the decision makers in your organization.

### Querying Analysis Information

For reporting and evaluation purposes, you will query analysis information and generate reports and graphs based on the results.

# Root Cause Analysis

## Course #1004

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### Training Agenda

#### Root Cause Analysis Overview

- The PROACT® methodology
- Accessing Meridium Root Cause Analysis

#### Creating a Root Cause Analysis

- Using the analysis wizard
- Defining Equipment or Locations
- Adding Team Members and a Team Charter
- Adding Critical Success Factors

#### Preserving Failure Data

- Determining what information is needed
- Assigning team member responsibility
- Linking external documents to the analysis

#### Ordering the Analysis

- Modifying the team charter or adding new Team Members or Critical Success Factors

#### Analyzing the Data

- Constructing the Event diagram
- Identifying Failure Modes
- Defining Hypotheses
- Determining verification methods for Hypotheses and assigning responsible team members
- Viewing and printing verification logs
- Modifying Hypotheses to include outcomes and confidence factors
- Linking external documents to Hypotheses
- Evaluating Hypotheses to reject or assign causes

#### Communicating and Tracking Analysis Results

- Communicating Analysis Findings
- Adding Recommendations based on Findings

#### Publishing the Analysis

- Publishing the analysis
- Re-using published analysis information

#### Ongoing Administration

- Launching pre-defined reports, such as a Summary Report or Verification Report
- Exporting, printing, or e-mailing reports

#### Querying the Results

- Building ad-hoc queries based on analysis data

# Thickness Monitoring

Course #1009

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## Course Details

**Length:** 1 day

**Prerequisite:** APM Framework - User

**Benefits:** You will learn how to use Meridium Thickness Monitoring to document and analyze thickness monitoring data.

**Audience:** General Users, Implementers, Administrators



## Overview

### Navigating a Corrosion Analysis Summary

You will navigate an existing Corrosion Analysis Summary to become familiar with the end results of a Thickness Monitoring program.

### Datapoints and Measurements

Thickness Monitoring provides a number of preconfigured forms that you will use to enter datapoints and measurements for a piece of equipment. You will also learn how to upload datapoint information to a datalogger, and in turn, download the resulting datapoint measurements.

### Analyzing Thickness Monitoring Data

You will learn how Thickness Monitoring calculates Next Inspection Date and Retirement Date based on loss of thickness, and how to use the Corrosion Calculator and Minimum Value Calculator to perform Corrosion Analyses.

# Thickness Monitoring

## Course #1009

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### Training Agenda

#### **Thickness Monitoring Overview**

- Accessing Thickness Monitoring (TM)
- The typical TM workflow
- Viewing existing datapoints and datapoint measurements

#### **Corrosion Analysis Summary**

- Accessing a Corrosion Analysis Summary
- Viewing UT Analysis Plots
- Navigating the Explorer
- Using Task Lists
- Using the Quick View to view Datapoints
- Archiving Corrosion Analysis results
- The TM Data Model

#### **Datapoints and Measurements**

- Navigating the Datapoints and Measurements screen
- Viewing associated datasheets
- Customizing the Measurements grid

#### **Adding TML's and Measurements**

- Using the Measurement Data Entry tool
- Editing measurements for selected TML's
- Adding a new TML to an existing asset
- Copying a TML and saving it as a new TML
- Adding Measurements to new TML's
- Adding bulk TML's and Base Measurements for a new Asset
- Renewing TML's
- Using a datalogger to send datapoints
- Using a datalogger to receive measurements

#### **Corrosion Analysis**

- Comparing Corrosion Analysis results to archived results
- Updating analysis settings
- Calculating Minimum Thickness (T-Min)

#### **Miscellaneous Tasks**

- Printing Quick Views
- Sending information to a Home Page
- Linking a Reference Document
- Viewing Audit information
- Using the Bulk Analyze tool