Training on Camstar Products

ANYTIME

eLearning
Course Catalog 2014

Camstar Release v5
Notices

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General Information

In addition to traditional instructor led training, Camstar Education Services offers eLearning in the Camstar Education Portal. This online training is self paced to support training on your schedule, at your pace; when and where you need it. This catalog of courses contains training available online now or planned for release in the near future.

Online training is provided as self-paced education with interaction in the form of questions and answers and supplemented by labs and exercises. To perform the hands on practice labs you will need access to a training model separate from the Education Portal. Please contact Camstar Education for lab environment options available.

For instructor led training or quickstart programs, please refer to the Camstar Enterprise Platform Course Catalog.

Open enrollment classes scheduled in Camstar Training Centers are found on the Camstar website Education pages or by contacting the Camstar Education department at SmartCamstar@Camstar.com.

eLearning courses are available by Product and some are generic to support sills development, knowledge transfer or project instructions. Where there are dependencies they are noted. Unless specifically stated, the learning events apply to the latest Camstar product release.
Camstar eLearning Course Descriptions

**Camstar Education Portal**

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This learning event is a pre-requisite to engaging in Camstar online training. It introduces the learning management system (LMS) and provides information about how to navigate the Education Portal and how to engage with Camstar Education to meet all your training needs on Camstar products. When you register for the Camstar Education Portal, this course will be included in your My Courses section and should be completed before other required or elective courses.

### General (Supporting) Learning Events on Camstar Products

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#### 100.1 Camstar Portal Login and Security

This learning event provides instructions related to the login to the Camstar Portal and security associated with Camstar products. Regardless of the Camstar products you are working with Camstar Portal login and security are consistent across the entire platform. This course provides the basic information you will need about log in credentials and system security. It is good information for everyone and vital information of system administrators responsible for setting up users.

#### 100.2 Navigation in the Camstar Portal

This learning event provides instructions related to navigation in the Camstar Portal, page layouts, icons, and conventions that form a standardized user experience. The “Camstar Portal Login & Security (100.1)” learning event should be taken as a prerequisite to this learning event. It also has a companion learning event Portal Menu Definitions (100.3) that describes how to configure a menu and associate it
with a system user. This learning event will concentrate on page and part navigation within the portal user interface.

100.3 Portal Menu Definitions
This learning event provides instructions related to how to form portal menu definitions to support users of the system by providing an efficient system user interface. The “Camstar Portal Login & Security (100.1)” and “Portal Navigation (100.2)” learning events are complementary to this learning event.

100.4 Modeling the Factory in Camstar Portal *coming soon
This learning event provides instructions related to how to configure the Factory Information Model using pages in the Camstar Portal. The “Camstar Portal Login & Security (100.1)” and “Portal Navigation (100.2)” and “Portal Menu Definitions (100.3)” learning events are complementary to this learning event.
Exploring Camstar Manufacturing

The purpose of this course is to teach users how to use Camstar to configure a Factory Model; how to navigate in the Camstar Portal as you learn the transactions available for processing work within your model; and the functionality available to configure and tailor the Camstar solution to fit your specific project requirements. This course will also explore the basic concepts and principles behind Camstar Manufacturing and how they relate to manufacturing operations.

Exploring Camstar Manufacturing is the foundation and entry point to understanding Camstar and implementing a solution in your factory. Exploring Camstar Manufacturing is made up of multiple learning events to allow users to quickly locate specific topics of interest and to focus on training as it is needed.

These learning events form the foundation of the out of the box Camstar MES and should be completed in the prescribed sequence.

101.1 Introduction to Camstar MES

This learning event is an introduction to Manufacturing Execution Systems (MES) and the Camstar MES specifically.

101.2 Configuring the Factory Information Model

This learning event introduces the Factory Information Model and describes the elements that make up the Physical, Process, and Execution models to form a computer model of your factory environment in support of shop floor activity.
101.3 WIP Tracking, Containers & Products

This learning event explains how Camstar MES addresses work in process tracking by using uniquely identified containers of products. It includes information about some supporting objects in the Factory Information Model like container levels, product families, and user codes.

101.4 Workflow Modeling

This learning event explains the structure for building workflows including operations, specs, steps, workflows, and user codes. You will learn how to manage container movement on a workflow to model the specific requirement of your production processes.

101.5 Shop Floor Execution

This learning event introduces basic out of the box single function transactions to effect changes to containers on the shop floor or to indicate movement of work in process. It includes a description of the state and status of work in process.
Exploring Camstar Manufacturing Elective Learning Events

These learning events build on the foundation of the out of the box Camstar MES by providing additional product capability, functionality, and controls in support of your Camstar Manufacturing implementation. These learning events can be completed in any sequence.
111.0 Electronic Procedures

Electronic Procedures allow for configuration of tasks that include data collection, computations, transaction execution, and instructions to shop floor users. They can be configured as a user's primary interface to perform work and view shop floor information. This learning event teaches how to configure the objects that make up Electronic Procedures, how to deploy them in your factory model, and how to perform the tasks in the system. It is comprised of 3 parts. Part 1 is a general overview of Electronic Procedures. Part 2 addresses model configuration. Part 3 covers executing transactions and performing tasks within the eProc framework.

112.0 Material Control

Material Control is a key capability of the Camstar MES and provides the ability to track production at all levels of material consumption. The Bill of Materials provides visibility and control of parts, components, raw materials, or products consumed to make a final product. This learning event explains how products by type are used to provide tracking and control as materials are issued on the shop floor. It includes the modeling objects required and optional and the transactions that support material control.

113.1 Manufacturing Audit Trail

Every action performed in the system is written to the database. The Manufacturing Audit Trail is a configurable tool to view current status, historical information, and details related to work in process.

113.2 Modeling Audit Trail

The Modeling Audit Trail provides visibility of changes to the instance data to build a factory information model. Instances of modeling objects added, updated, or deleted are tracked in the Modeling Audit Trail and visible to Modelers for each object in the model. A separate page is available to allow non modeler users of the system to retrieve audit information about modeling. This learning event covers the Modeling Audit Trail in the Modeling function and as a stand alone page.

113.3 Container Search

This learning event covers the Container Search page and how to use it to locate work in process and perform transactions on one or more containers based on the dynamic transaction buttons embedded in the Container Search page.
114.0 Configurable Data Collection

Data to be recorded on work in process associated with tests, measurements, or observations on inspection can be configured as a function of modeling using User Data Collection and linked to transactions performed at steps in the workflow. This learning event covers model configuration and execution on the shop floor to record configured parametric data.

Resource Management

These learning events build on the foundation of the out of the box Camstar MES by providing additional capability, functionality, and controls in support of resources (machines or tools) used in your Camstar Factory Information Model.

120.1 Introduction to Resource Management

This learning event provides an introduction to the objects that form Resource Management capability in Camstar Manufacturing and how they are used in shop floor tracking to provide information pertinent to equipment use and efficiency. The Resource Set Up transaction used to effect a change to the status of a resource is discussed. There are two learning events subsequent to this one that provide examples of simple and complex use of resources.
120.2 Configuring Resource Management (Simple)
This learning event provides an example of simple use of resources in manufacturing to record equipment or tools used as containers are processed on the shop floor. It covers how to define and group resources and mapping them to specs to provide lists users can select from as work is processed.

120.3 Configuring Resource Management (Complex)
This learning event provides a more complex example of Parent and Child resources and how they work together to provide work stations and work cells for processing multiple containers across many machines within a workflow step. This learning event also describes the Line Clearance capability used to manage and control how work is distributed on resources.

120.4 Resource Status Model
This learning event describes the objects used to form a state model that ensures resources are managed according to your equipment specifications. You define the states and how equipment transitions from one state to another when a machines is down and progressing back to an in production state.

Exploring Camstar Manufacturing Feature Modules

Feature Modules are separately licensed features that fit on top of the base Camstar Manufacturing product to extend product capability and functionality. The Education Portal contains eLearning courses for 5 licensed modules on Camstar Manufacturing.

The feature modules are developed in parts as described below:

Part 1 provides an overview and introduction to the licensed feature module. It is appropriate for project managers and sponsors who are not involved in the model configuration or shop floor execution. It is also appropriate for all audiences, modelers responsible for configuration and users.

Part 2 introduces the objects that make up the feature and how they relate to the factory information model. Modeling sequence is described.

Part 3 describes the execution or transactions related to the feature module and how data is used by the system to manage or control shop floor activity.

Dispatch Management

![Diagram showing the structure of feature modules](image-url)
Electronic Signatures

Label Printing

Maintenance Management

Operator Training & Certification
AQL Sampling *coming soon

This new licensed feature module will be added to the Education Portal. It will be developed in 3 parts similar to other Licensed Feature Modules.

Camstar Quality *coming soon

The Camstar Quality curriculum is in development and expected for release in Q1 2014.

The following learning events are included in the CQ curriculum.

170 Modeling the Camstar Quality Organization

The purpose of this course is to teach users how to use Camstar Quality to configure an Organization Model for tracking nonconformances or quality events. It is a pre-requisite to the licensed feature modules.

171 Searching Quality Records

An elective course on how to search quality records is also provided. This learning event will also discuss the Concierge and Message Centers used to provide lists of quality records to users of the system.
Exploring Camstar Quality Feature Modules

Feature Modules are separately licensed features that fit on top of the base Camstar product to extend product capability and functionality. The Education Portal contains eLearning courses for 2 licensed modules on Camstar Quality.

175.1 NCM Recording Production Events
This learning event describes the pages used to record nonconformances in your system. It builds on the organization model configured in the 170 learning event.

175.2 NCM Managing Production Events
This learning event describes the pages used to manage nonconformances in your system. It builds on the organization model configured in the 170 learning event and the recording of production events as described in 175.1.

185.1 Event Management Recording Events
This learning event describes the pages used to record events that are not production related in your system. Quality incidents can happen anytime and anywhere and may not be related to work tracked in you Camstar MES. It builds on the organization model configured in the 170 learning event.

185.2 Event Management Managing Event Records
This learning event describes the pages used to manage event records in your system. It builds on the organization model configured in the 170 learning event and the recording of nonproduction events as described in 185.1.
NonProduct – Project training

This category of training includes project and supporting information. The following topics are underdevelopment and will be published as they become available. These learning events are required for Camstar Services employees and may be applicable for our customers and partners. They are not readily available for enrollment. Check with the LMS Administrator if you are interested in these topics.

200.1 Camstar Implementation Methodology
200.2 Camstar Project Governance
200.3 Camstar Consulting
200.4 Reporting Methodology
200.5 Regulatory Training for Life Sciences
200.6 Train the Trainer (Education Department Business Processes and Certification of Instructors)

Resource Center

You will find valuable information in the resource center in the form of white papers, how to instructions, instruction video’s and demonstrations, as well as a Master glossary of terms. This section of the Education Portal will change frequently as new materials become available, so check back often.

Master Glossary of Terms:
Key terms identified in training are defined in a searchable glossary

White Papers: *coming soon

Thruput
This white paper describes how Camstar manages thruput at operations to provide production quantity reporting by shift or by resource.

WIP Messages
Situational messages based on container attributes can be configured and delivered to users. This configuration includes the ability to require acknowledgement or place containers on hold. The messages and actions taken are written to history and this learning event teaches configuration, use in the factory model, and visibility of recorded messages.
**Multi-Container Hierarchy**
This white paper discusses the ability to track containers within containers to effect changes or record data on many containers with a single transactions. The transactions used in Multi-Container tracking are discussed in this white paper and examples are provided.

**Bill of Process**
This white paper discusses the ability to establish spec overrides based on specific containers, manufacturing orders, or products.

**Data Migration**
This white paper discusses the methods available for migration of data from one environment to another. It is complemented by a video presentation.

**Container Attributes**
This white paper describes configurable user attributes that can be defined and mapped on Container object and transactions.

**Email Notification**
Email notifications can be configured, stored, and distributed by the system based on specific system actions. This learning event introduces how to configure and use email notification.

**Labs**
Structured labs on a storyline are provided for download from the Education Portal for learning events where appropriate. Access to a stand alone training model environment is necessary to perform the labs as written. Camstar provides hosted lab environments for a fee. Contact Camstar for information on training model environments to support hands on practice of concepts learned.
To request subscription pricing, access to lab environments, or other information please contact

SmartCamstar@camstar.com