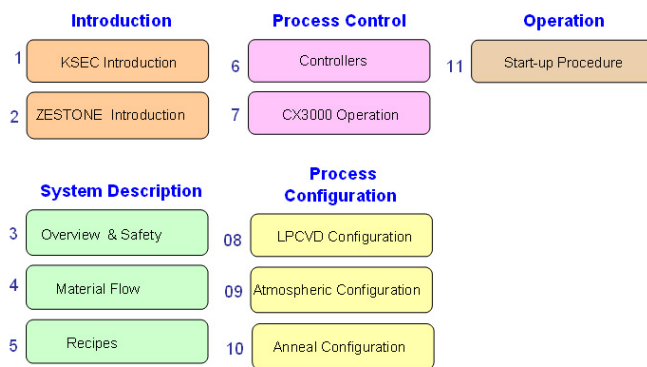


ZESTONE Z3CN Phase I Introduction and Fundamentals

Phase I provides the foundational information needed by any personnel working on Kokusai equipment. All other courses build on the knowledge developed in this class.

Phase I is a suggested prerequisite for all subsequent ZESTONE Z3CN classes.

Learning Environment



On-Line course materials are organized as a series of modules that can be studied one at a time as each student's schedule permits. **The lessons are self-paced so that each student can proceed according to their own level of background knowledge and experience.** A single lesson can be typically completed in an hour.

Course lessons are presented in a multimedia format including slides, voice narration by the instructor and animations to demonstrate robotic movements and operations.

After courses are satisfactorily completed, students may log in and review materials at a later time.

The courses are contained in a Learning Management System (LMS) that provides the structure and administration of all the elements required for on-line learning.

After students log on, they have access to many support resources including a library of resource materials, quiz results, course status and FAQ's. The LMS is a firm foundation for a continuing expansion of the Kokusai On-line course offerings.

	On-Line	Classroom
Course Number	34W1	
Duration		
Level	Introductory	
Suggested Pre-requisites	None	

Why You Should Take this Course

KSEC Training Services are competence building programs designed to enable you or your personnel to respond more productively to system and process challenges, reducing cost and downtime.

- Improved maintenance staff skills
- Faster service response
- Less down time
- Reinforcement of safety practices

Who Should Attend

- Process Managers/Engineers
- Maintenance Technicians
- Maintenance Supervisors

What You Will Learn

After completing this module, you should understand:

- How material flows through the furnace and the operation of the material handling robots
- The process cycle & recipe batch processing
- The process chamber gas supply and exhaust components and how they operate
- The CX3010 main user interface and use of the operation touch screens
- Startup & shutdown procedures
- The safety hazards and protective features associated with the ZESTONE 3CN tool

Registration

Online course registration requests are available via our website www.ksec.com/training. After a registration request is received, we will coordinate all of the payment details on your behalf and send your online authorization via email. Then you may proceed to take the course at your own schedule within a 90 day period.

Course Topic Outline

INTRODUCTION

- Chamber Process Systems
- Material Handling System
- Electrical Distribution System
- Material Flow Through the VDF
- Operator Controls
- Batch Processing Concepts
- Z3CN Process Configurations

ROBOTICS & MATERIAL FLOW

- Material Flow
- Robotics & Mechanical Components
- RoBo5000
- Stage
- FOUPs
- IO Shutter
- Cassette Loader Robot
- Pod Openers
- Wafer Transfer Unit Robot
- Boat Elevator Robot
- Process Chamber Shutter
- Boat Changer

GAS SUPPLY SYSTEM

- Gas Supply Locations
- Integrated Gas System (IGS)
- CX3202 Gas Controller
- Mass Flow Controllers
- Mass Flow Meters
- Automatic Valves
- Gas Control Signal Path
- Integrated Gas System
- Gas Piping Heaters
- Schumacher Bubbler

POWER & UTILITIES

- Power and Power Distribution
- Power Box
- Power Main Breakers
- High Power Distribution
- Low Power Distribution
- Power Contactors
- N2 Purge System

PROCESS CYCLE

- Process Variables & Controls
- Gas Flow Control & Recipes

CX3010 CONTROL SYSTEM

- Supervisory-Distributed Control Hierarchy
- Control Network
- Supervisory Controllers
- Local Controllers
- Mechanical Controllers
- Interlock Units
- Chamber Control
- Temperature Control

CX3010 OPERATION

- Introduction
- System Status Display
- Recipe Information
- Operating Status
- Operating Modes
- Alarm Status Display
- Command & Control Buttons
- Function Buttons
- Gas Pattern Panel Operation
- Other Monitor Buttons

LPCVD SYSTEMS

- LPCVD System Description
- Deposition Process
- Process Chamber
- Exhaust System
- Vacuum Gauges
- Exhaust System

ATMOSPHERIC SYSTEMS

- Atmospheric Systems Description
- Wet Oxide Process
- Dry Oxide Process
- Atmospheric Quartz Chamber
- Exhaust Systems
- Atmospheric Torch
- Water Vapor Generator

STARTUP & SHUTDOWN

- Startup Sequence & Procedures
- Shutdown Sequence & Procedures

SAFETY

- Safety Hazard Classifications
- Mechanical Hazards
- Thermal Hazards
- Electric Hazards
- EMO Switches