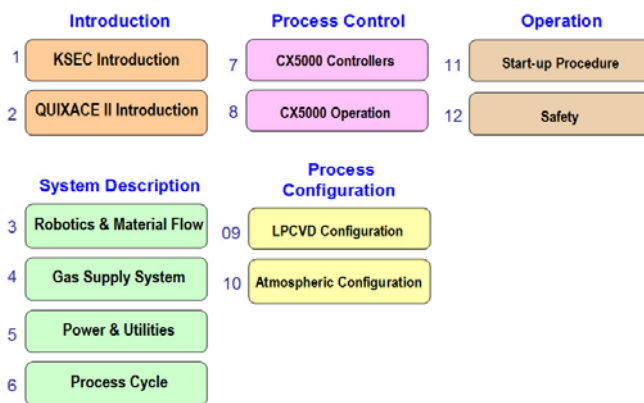


QUIXACE II Phase I Introduction and Fundamentals

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 QUIXACE II 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	33W1	
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
- Basic concepts of recipe batch processing
- The process chamber gas supply and exhaust components and how they operate
- The CX5000 main user interface and use of the operation touch screens
- Startup & shutdown procedures
- The safety hazards and protective features associated with the QUIXACE 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

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

ROBOTICS AND MATERIAL FLOW

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

GAS SUPPLY

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

POWER AND UTILITIES

- Power Box
- Power Main Breakers
- High Power Distribution
- 120V Power Distribution
- Power Contactors
- N2 Purge System

PROCESS CYCLE

- Step Time Variables
- Temperature Variables
- Gas Flow Variables
- Pressure Variables
- Mechanical Movements

CX5000 CONTROLLERS

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

CX5000 OPERATION

- CX5000 Overview
- Logging into the CX5000
- Title Panel
- Navigation Panel
- System Main Screens
- Process Module Main Screens
- Transfer Main Screens

LPCVD SYSTEMS

- Deposition Process
- Process Chamber
- Gas Flow Path
- Exhaust System
- Vacuum Gauges

ATMOSPHERIC SYSTEMS

- Wet Oxide Process
- Dry Oxide Process
- Process Chamber & Liner
- Steam Flow Path
- Exhaust System
- Torch System
- Water Vapor Generator

STARTUP & SHUTDOWN

- Startup Sequence & Procedures
- Shutdown Sequence & Procedures

SAFETY

- Mechanical Hazards
- Thermal Hazards
- Electric Shock Hazards
- Chemical Hazards
- Gas Box Hazards
- Process Chamber Hazards
- Cabinet Air Flow
- Differential Pressure Monitors
- EMO Switches