INTUCSX - ADMINISTERING CISCO UCS X-SERIES SOLUTIONS WITH INTERSIGHT

Course Code: 821639

INTUCSX: Cisco UCS X & Intersight course goes deep into deployment, ops, migration, optimization, & integrated solutions

Cisco UCS X-Series represents the latest generation of converged computing solutions optimized for hybrid and cloud-native workloads—critical for modern enterprises focusing on agility, workload portability, automation, and resource optimization. By attending this intensive 5-day course, participants will acquire comprehensive knowledge and practical skills required to successfully deploy, configure, optimize, operate, and troubleshoot Cisco UCS X-Series platforms integrated through Cisco Intersight.

This course is crucial for Infrastructure teams, Data Center professionals, Systems Engineers, Solutions Architects, AI/ML Infrastructure Designers, and technical leads responsible for implementing and managing hybrid datacentre/computing environments leveraging Cisco UCS-X technology, Intersight management, container platforms (Red Hat OpenShift), and GPU-enhanced AI infrastructure.

This course is worth 40 CE credits towards recertification.

What You'll Learn

Upon completion, participants will be able to:

- Articulate the solution-level architecture, differentiators, and capabilities of Cisco UCS XSeries platforms integrated with Cisco Intersight.
- Identify and configure UCS-X hardware components, including chassis, compute nodes, GPU components, and fabric interconnects.
- Deploy and configure Cisco UCS X-Series systems using Cisco Intersight Managed Mode (IMM), including migration and monitoring processes.
- Describe advanced power/cooling management techniques and configure relevant thermal and power policies.
- Understand integration principles and perform deployments of Red Hat OpenShift on Cisco UCS-X platforms via Intersight.
- Plan and implement GPU-enabled AI infrastructures, ensuring correct GPU quantity selection, deployment optimization, and configuration best practices.
- Diagnose issues and perform structured troubleshooting of common hardware,

software, and configuration errors through Intersight management and command-line tools

Who Needs to Attend

The primary audience for this course is as follows:

- Data Center Systems Engineers and Administrators
- Infrastructure Automation Engineers
- Cloud Architects and Solutions Architects
- Technical personnel involved in AI architecture and workload planning
- IT support technicians, consultants, and Cisco partners implementing UCS-X technology

Prerequisites

Participants should possess basic-to-intermediate knowledge of Cisco UCS platforms, data center technologies, server infrastructure, networking concepts, virtualization fundamentals, and basic container management proficiency.

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CLASSROOM LIVE	$4,495 USD	5 Day

Classroom Live Outline

Day 1: Cisco UCS X-Series Solution Architecture & Key Components

Module 1: Cisco UCS X-Series and Intersight Solution Architecture

- Cisco UCS-X 5th Generation overview and architecture details
- Cisco Intersight SaaS and on-prem management overview
- UCS-X chassis (X9508), compute nodes (X210c M6/M7, X410c M7)
- Fabric Interconnects (6400, 6500 models—Gen 4, Gen 5)
- Networking and storage infrastructure options

Module 2: Cisco Intersight Foundation

- Introduction to Cisco Intersight (cloud and on-prem architecture, SaaS model) vs legacy UCSM
- Intersight foundational elements: GUI navigation, inventories, profiles, policies, firmware baselines
- Core features: IMM-mode principles, pools, policies, templates
- Intersight Licensing

Module 3: Cisco UCS X-Series Management with Intersight Managed Mode (IMM)

- Configuring Pools, Policies (Firmware, Server, Network, Storage)
- Service profiles and templates management with Intersight
- Intersight Infrastructure Services & troubleshooting overview

Day 2: Installation, Migration, and Advanced Operations

Module 4: UCS X-Series Installation Considerations

- Detailed IMM deployment procedures, prerequisites, planning
- Migration strategies from classic UCS Manager to IMM/Intersight
- Cisco Intersight IMM Transition Tool deployment and operations

Module 5: Advanced Day-2 Operations in Intersight

- Firmware lifecycle management & best practices
- Advanced resource optimization: Server, storage, network
- Monitoring, logging, alerts, and automated remediation

Module 6: UCS-X Power & Cooling Management

- Airflow optimization, thermal policy management
- Advanced power policies and future-proof cooling best practices

Module 7: Structured Troubleshooting Approach with Intersight and CLI

- Troubleshooting fabric connectivity, IOM, vNIC/vHBA, and bandwidth issues
- Firmware and configuration issues; logs and CLI analysis techniques
- VLAN, VSAN, QoS, and CRC error troubleshooting

Day 3: Red Hat OpenShift Integration with Cisco UCS-X and Intersight

Module 8: Deployment Considerations for Managing Container Platforms with Red Hat OpenShift Clusters

- UCS-X Hardware requirements for OpenShift deployment (compute, storage, network)
- Designing robust network fabric and storage for container platforms
- Provisioning OpenShift clusters through Cisco Intersight

Module 9: Operational Management of Red Hat OpenShift on UCS-X

- Managing OpenShift lifecycle (upgrade, updates, node scaling) via Intersight
- Cross-platform observability, integra6on, and resource optimization

Day 4: AI Infrastructure Design, GPU Deployment & Optimization

Module 10: AI/ML Infrastructure Planning & GPU Integration with Cisco UCS-X

- GPU technology overview (Nvidia Ampere/Hopper architectures, CUDA cores, VRAM types)
- Selecting the right GPUs: performance, required quantities per workload, supported UCS-X GPUs/adapters
- Optimizing GPU-to-server ratios for typical AI model/training scenarios

Module 11: GPU Optimization and Best Practices

- GPU virtualization and orchestration via VMware/Nutanix/OpenShift/Kubernetes
- GPU tuning parameters for AI workloads (multi-instance GPU, vGPU modes)
- Troubleshooting GPU resource allocation and infrastructure bottlenecks

Day 5: Advanced Cisco Intersight Topics & API Automation

Module 12: Intersight API Integration and Automation Overview

- Cisco Intersight REST API fundamentals, architecture, authentication and endpoint exploration
- Automating Intersight operations via REST API, Ansible Modules, Terraform Providers
- Developing customized automation scripts and workflows with Cisco-provided SDKs (Python, PowerShell)

- Practical automation: typical workflows and SDK use-case demonstrations

Module 13: Advanced Cisco UCS-X and Intersight Topics

- Automated workload optimization and resource recommendations
  - Partner Solution: IBM Turbonomic
- Hybrid Kubernetes cluster orchestration and container workload management
  - Cisco Intersight Kubernetes Service (IKS)
- Infrastructure automation via Infrastructure-as-Code methodologies
  - Cisco Intersight Service for Terraform (IST)
- Workflow and orchestration automation
  - Intersight and ACI Application Profiles
  - Design and operaton of automated workflows
  - Cisco Intersight Cloud Orchestrator (ICO)
- Advanced Forecasting and Optimization Tools in Cisco Intersight
  - Resource usage prediction, infrastructure health analytics and recommendations
- Unified Observability with AppDynamics, ThousandEyes & Splunk
  - Real-time insights and predictive analytics for seamless digital performance
- Other Third-Party Integrations

Classroom Live Labs

- Lab 0: Connecting to Lab Environment
- Lab 1: Exploring Cisco Intersight Interface and Setting Up IMM in Cisco Intersight
- Lab 2: Initial UCS-X Hardware Setup, component inventory, and IMM discovery
- Lab 3: Configuring UCS-X with Intersight IMM – Profiles, Policies & Templates
- Lab 4: Migration and Validation using Cisco Intersight IMM Transition Tool
- Lab 5: Firmware management, monitoring, and Day-2 operational tasks
- Lab 6: Configure advanced thermal and power policies
- Lab 7: Hands-on troubleshooting using CLI and Intersight GUI
- Lab 8: OpenShift Deployment using Cisco-validated methodologies
- Lab 9: OpenShift Operations through Intersight Automation
- Lab 10: Validating GPU Performance, Monitoring GPU health and resource utilization in Intersight
- Lab 10: Optimization for GPU-intensive workloads and troubleshooting GPU deployment

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Jan 12 - 16, 2026 | 10:00 AM - 6:00 PM EST

Mar 16 - 20, 2026 | 10:00 AM - 6:00 PM EST

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PRIVATE GROUP TRAINING	5 Day

Visit us at www.globalknowledge.com or call us at 1-866-716-6688.

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