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COURSE BROCHURE

AI in Radiology and Pathology Training Course

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Registered in the United Kingdom and Saudi Arabia

AI in Radiology and Pathology Training Course

AI in Radiology and Pathology is a 1-week training course for diagnostic department managers, clinical leads and imaging informatics staff, who leave with a Diagnostic AI Integration Plan for their own service. Detection algorithms for scans and whole-slide images are entering daily reporting, and diagnostic leaders now decide which tools reach patients. Jupiter Prime Training delivers AI in Radiology and Pathology for these leaders.

Why AI in Radiology and Pathology Matters Now

Three forces meet in diagnostic departments: imaging and biopsy volumes outgrowing specialist supply, the digitisation of glass slides, and scrutiny of how algorithms behave across patient groups. A department that chooses and monitors diagnostic AI well shortens turnaround for urgent findings and frees specialists for complex cases; one that adopts tools without validation risks missed lesions, alert fatigue and lost clinician trust. The course rests on ISO/IEC 42001 for an AI management system and the NIST AI Risk Management Framework AI RMF.

Who Gains Most from AI in Radiology and Pathology

- Imaging service leads responsible for reporting turnaround and worklists
- Histopathology managers who run slide scanning and case allocation
- Clinical leads who sign off diagnostic tools and set the limits of their use
- Imaging informatics specialists who connect algorithms to PACS, RIS and laboratory systems
- Digital health managers who build the investment case and track benefits

Departments that send a clinical lead and an informatics specialist together gain most, since integration choices and clinical safeguards are then agreed in one room.

AI in Radiology and Pathology Capabilities

Participants learn to judge how a detection or triage algorithm will perform on their own scanners, stains and patients.

- Assess the evidence behind a radiology or pathology algorithm — procurement panels
- Specify local validation studies before clinical go-live — clinical safety officers
- Design worklist triage rules that bring suspected critical findings forward — reporting radiologists
- Test algorithm output for performance gaps across patient groups, scanners and stains — equity and quality committees
- Build a post-deployment monitoring dashboard for drift and discordance — department managers
- Communicate the role, limits and override rules of diagnostic AI — medical directors

Key AI in Radiology and Pathology Terms

- Computer vision — AI that interprets images to find, outline or classify lesions in scans and slides.
- Whole-slide image WSI — a high-resolution digital scan of a whole glass slide, reviewed on screen.
- Worklist triage — reordering the reporting queue so studies flagged as urgent are read first.
- External validation — testing an algorithm on cases from sites and equipment outside its training data.
- Dataset drift — a change in incoming images, such as a new scanner or stain, that lowers accuracy over time.
- Discordance review — structured comparison of cases where clinician and algorithm disagree.

AI in Radiology and Pathology Day by Day

Day 1: Diagnostic Pressures and the AI Landscape

- Reporting Backlog and Workforce Mapping — Where Algorithms Relieve Capacity
- Detection, Segmentation and Classification Models — Matching Tasks to Clinical Need
- Radiology Use Cases in Chest, Breast and Neuro Imaging — Priority Selection
- Digital Pathology Scanners and Whole-Slide Images — Laboratory Readiness Decisions
- ISO/IEC 42001 Management System Scope — Accountability for Diagnostic Algorithms

Day 2: Evaluating Diagnostic Algorithms

- Sensitivity, Specificity and ROC Curves — Reading Vendor Performance Claims
- External Validation Study Design — Proving Accuracy on Local Cases
- Reference Standards and Ground Truth Labelling — Trusting the Comparison
- Subgroup Performance Analysis — Detecting Bias Across Patient Populations
- NIST AI RMF Map and Measure Functions — Framing Diagnostic Risk

Day 3: Integrating AI into Imaging and Laboratory Workflows

- PACS, RIS and DICOM Routing — Where Algorithm Results Appear
- Laboratory Information System Links — Case Prioritisation for Pathologists
- Worklist Triage and Critical Finding Alerts — Urgency Rules and Escalation
- Human-in-the-Loop Reporting Models — Clinician Sign-Off Rules
- Vendor Selection and Interoperability Testing — Build, Buy or Platform Choice

Day 4: Safety, Oversight and Performance Monitoring

- Dataset Drift and Scanner Change Detection — When to Recalibrate or Pause
- Discordance Review Meetings — Learning from Clinician and Algorithm Disagreement
- Clinical Safety Case and Hazard Log — Documenting Residual Risk
- Patient Information and Consent Messaging — Transparency About Algorithm Use
- Benefit Tracking for Turnaround and Detection Rates — Investment Review

Day 5: Practising the Diagnostic AI Integration Plan

- Use Case Shortlist for Imaging and Slides — Applying Day 1 Priorities
- Local Validation Protocol Draft — Applying Day 2 Evidence Tests
- Triage Routing and Override Rules — Applying Day 3 Workflow Choices
- Monitoring Dashboard Specification — Applying Day 4 Drift Controls
- Diagnostic AI Integration Plan — Final Peer Challenge and Sign-Off

Applying AI in Radiology and Pathology After the Course

- Run a retrospective validation of one shortlisted algorithm on local scans or slides, reporting subgroup performance.
- Set up a monthly discordance review for an AI tool already in use, logging drift signals.

AI in Radiology and Pathology Questions FAQ

What is AI in Radiology and Pathology and why does it matter now?

AI in Radiology and Pathology uses computer vision to detect and prioritise findings in scans and whole-slide images. It matters now because reporting demand is outgrowing specialist capacity, and departments must test tools rather than trust vendor claims.

Which roles gain most from AI in Radiology and Pathology training?

Imaging and laboratory managers, clinical leads, informatics specialists and digital health managers gain most. Each decides something different: what to fund, how to validate, where results appear and how performance is watched.

How does AI in Radiology and Pathology differ from a general healthcare AI course?

It concentrates on diagnostic images and slides, not the whole patient pathway. You work on algorithm validation, PACS and laboratory links, worklist triage and drift monitoring rather than chatbots or administration.

What do you bring back from AI in Radiology and Pathology training?

You bring back a Diagnostic AI Integration Plan for your own department. It sets out shortlisted use cases, a local validation protocol, triage and override rules, and a monitoring dashboard specification.

AI in Radiology and Pathology: The Way Forward

The Diagnostic AI Integration Plan first informs which algorithm a department validates on its own cases. Imaging and laboratory managers use it with clinical leads and informatics staff to agree routing and override rules. After the first months of live use, subgroup results and discordance findings deserve a second look, since new scanners and stains change what an algorithm sees.