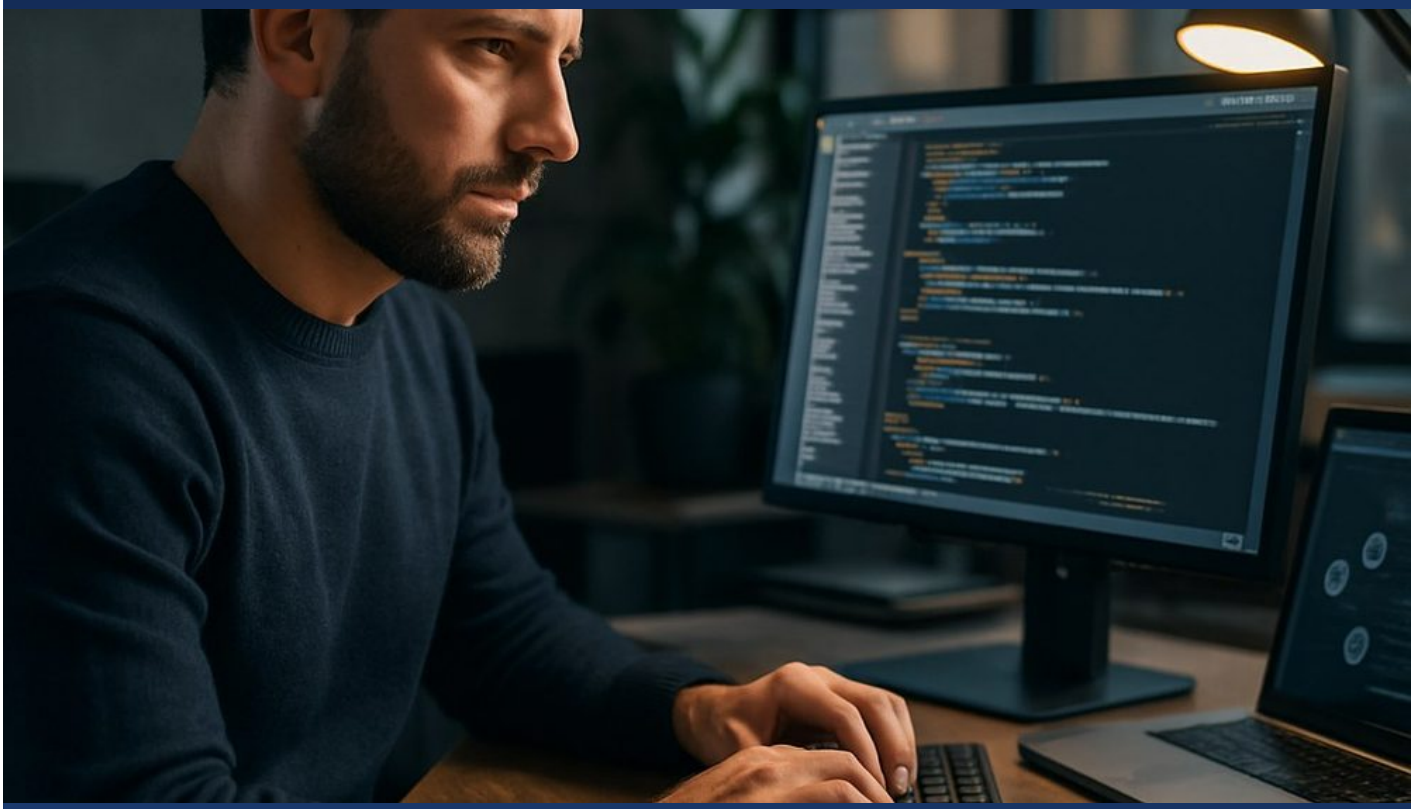
LAPT

LONDON ACADEMY OF PROFESSIONAL TRAINING

CERTIFICATE

# ISO 12207SFT — Software Lifecycle Processes

*ISO Certification Programme*

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**Reference** IIT-SFT-12207SFT • ISO IT & Related Technologies


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| 6 | 30 | 180 | 430 | 60% | Lifetime |
|---|---|---|---|---|---|
| SUBJECTS | CHAPTERS | CLASSES | TOTAL MARKS | PASS MARK | VALIDITY |

## AT A GLANCE

| | |
|---|---|
| REFERENCE | **IIT-SFT-12207SFT** |
| AWARD | **Certificate** |
| ASSESSMENT | **430 marks — 258 to pass (60%)** |
| PREREQUISITES | **None** |
| VALIDITY | **Lifetime** |
| AWARDING BODY | **LAPT — London Academy of Professional Training** |

## CURRICULUM

### 1 Advanced Project Management Techniques

5 chapters · 30 classes · **65 marks**

**• 1 Fundamentals of Project Management in Software Development** — 6 classes

- 1.1 Define Key Concepts in Software Project Management
- 1.2 Identify Phases of the Software Development Lifecycle
- 1.3 Analyze Stakeholder Roles and Responsibilities
- 1.4 Employ Risk Management Strategies in Software Projects
- 1.5 Utilize Agile Methodologies for Effective Project Execution
- 1.6 Develop a Project Plan with Measurable Outcomes

**• 2 Integrating ISO 12207 into Project Management Practices** — 6 classes

- 2.1 Understand ISO 12207 Principles for Project Management
- 2.2 Map Software Lifecycle Processes to Project Phases
- 2.3 Identify Key Stakeholders and Their Roles in ISO 12207
- 2.4 Develop an Integrated Project Management Plan Using ISO 12207
- 2.5 Assess Project Risks through ISO 12207 Framework
- 2.6 Implement Continuous Improvement Practices in Project Management

**• 3 Risk Management Techniques for Software Projects** — 6 classes

- 3.1 Identify Key Risk Factors in Software Projects
- 3.2 Assess the Impact of Risks on Project Objectives
- 3.3 Develop a Risk Mitigation Strategy for Software Delivery
- 3.4 Implement Risk Monitoring Techniques Throughout the Lifecycle
- 3.5 Evaluate the Effectiveness of Risk Management Approaches
- 3.6 Create a Comprehensive Risk Management Plan for a Case Study

**• 4 Leadership and Team Dynamics in Software Projects** — 6 classes

- 4.1 Analyze Leadership Styles in Software Teams
- 4.2 Explore Team Dynamics and Communication Strategies
- 4.3 Assess Conflict Resolution Techniques in Project Management
- 4.4 Implement Decision-Making Frameworks for Teams
- 4.5 Evaluate the Impact of Team Culture on Project Success
- 4.6 Design a Leadership Development Plan for Software Projects

**• 5 Evaluating Project Success and Continuous Improvement** — 6 classes

- 5.1 Define Key Metrics for Project Success
- 5.2 Analyze Stakeholder Feedback for Improvement Insights
- 5.3 Implement Best Practices in Project Evaluation
- 5.4 Develop a Continuous Improvement Plan
- 5.5 Conduct a Root Cause Analysis of Project Failures
- 5.6 Create a Framework for Ongoing Project Reviews

## 2 Process Design and Implementation

5 chapters · 30 classes **85 marks**

### 1 Understanding Software Lifecycle Models and ISO 12207 — 6 classes

- 1.1 Define Key Concepts in Software Lifecycle Models
- 1.2 Explore the Importance of ISO 12207 in Software Development
- 1.3 Identify Different Software Lifecycle Models and Their Characteristics
- 1.4 Analyze the Relationship Between ISO 12207 and Project Management
- 1.5 Compare and Contrast Traditional vs. Agile Software Lifecycle Models
- 1.6 Develop a Practical Implementation Plan Using ISO 12207 Guidelines

### 2 Identifying Stakeholders and Requirements in Process Design — 6 classes

- 2.1 Define Key Stakeholders in Software Process Design
- 2.2 Analyze Stakeholder Needs and Expectations
- 2.3 Facilitate Stakeholder Collaboration and Communication
- 2.4 Document Requirements Gathering Techniques
- 2.5 Evaluate and Prioritize Stakeholder Requirements
- 2.6 Develop a Comprehensive Stakeholder Requirements Matrix

### 3 Process Mapping and Documentation Techniques — 6 classes

- 3.1 Identify Key Components of Process Mapping
- 3.2 Analyze Different Documentation Techniques
- 3.3 Create a Basic Process Map Using Flowcharts
- 3.4 Employ SIPOC Diagrams for High-Level Process Overview
- 3.5 Develop Detailed Process Documentation Standards
- 3.6 Implement Process Mapping in Real-World Scenarios

### 4 Implementing Process Design for Continuous Improvement — 6 classes

- 4.1 Analyze Current Processes for Improvement Opportunities
- 4.2 Define Key Performance Indicators for Success
- 4.3 Design a Framework for Continuous Improvement Initiatives
- 4.4 Implement Process Changes Using Agile Methodologies
- 4.5 Measure Outcomes and Gather Feedback for Refinement
- 4.6 Foster a Culture of Continuous Improvement Across Teams

### 5 Measuring Process Performance and Governance in Software Development — 6 classes

- 5.1 Define Key Performance Indicators for Software Processes
- 5.2 Analyze Measurement Techniques for Process Performance
- 5.3 Implement Governance Frameworks in Software Development
- 5.4 Evaluate Data Collection Methods for Performance Metrics
- 5.5 Design a Continuous Improvement Plan for Software Processes
- 5.6 Present Findings and Recommendations for Process Enhancements

## 3 Risk Management in Software Development

5 chapters · 30 classes **65 marks**

### 1 Understanding Risk in Software Development — 6 classes

- 1.1 Define Risk in Software Development
- 1.2 Identify Common Risks in Software Projects
- 1.3 Analyze the Impact of Risks on Software Outcomes
- 1.4 Evaluate Risk Assessment Techniques
- 1.5 Develop a Risk Mitigation Plan
- 1.6 Apply Risk Management Strategies in Real Case Scenarios

### 2 Identifying and Assessing Risks — 6 classes

- 2.1 Define Risk in Software Development Context
- 2.2 Identify Common Risks Associated with Software Projects
- 2.3 Explore Tools and Techniques for Risk Identification
- 2.4 Assess Risk Impact and Probability in Software Projects
- 2.5 Prioritize Identified Risks for Effective Management
- 2.6 Develop a Risk Assessment Report for Stakeholders

### 3 Risk Mitigation Strategies — 6 classes

- 3.1 Identify Common Risks in Software Development
- 3.2 Evaluate the Impact of Risks on Project Goals
- 3.3 Develop Effective Mitigation Strategies
- 3.4 Assess the Feasibility of Risk Mitigation Options
- 3.5 Implement Risk Mitigation Plans in Agile Sprints
- 3.6 Review and Adjust Mitigation Strategies Post-Implementation

### 4 Integrating Risk Management into Software Processes — 6 classes

- 4.1 Identify and Define Key Risks in Software Development
- 4.2 Analyze Risk Impact and Likelihood in Software Projects
- 4.3 Develop Risk Mitigation Strategies for Software Processes
- 4.4 Integrate Risk Management into Software Development Life Cycle
- 4.5 Monitor and Review Risks Throughout Software Development
- 4.6 Communicate and Document Risks for Stakeholder Engagement

### 5 Monitoring and Reviewing Risks — 6 classes

- 5.1 Identify Key Risk Indicators in Software Development
- 5.2 Develop a Risk Monitoring Plan for Software Projects
- 5.3 Analyze Risk Data: Techniques for Effective Review
- 5.4 Implement Tools for Continuous Risk Monitoring
- 5.5 Evaluate the Effectiveness of Risk Management Strategies
- 5.6 Communicate Risk Findings to Stakeholders Effectively

## 4 Software Lifecycle Models

5 chapters · 30 classes **85 marks**

- **1 Fundamentals of Software Lifecycle Models** — 6 classes
  - 1.1 Define Key Concepts in Software Lifecycle Models
  - 1.2 Explore the Historical Development of Software Lifecycle Models
  - 1.3 Identify Different Types of Software Lifecycle Models
  - 1.4 Compare Agile and Waterfall Models in Software Development
  - 1.5 Analyze the Benefits and Limitations of Various Models
  - 1.6 Apply a Software Lifecycle Model to a Real-World Project Scenario
- **2 Overview of Common Software Lifecycle Models** — 6 classes
  - 2.1 Define Key Software Lifecycle Models
  - 2.2 Compare Waterfall and Agile Methodologies
  - 2.3 Examine Spiral Model Characteristics
  - 2.4 Identify Benefits of Iterative Development
  - 2.5 Assess the Role of DevOps in Software Lifecycles
  - 2.6 Apply Lifecycle Models to Real-World Scenarios
- **3 Comparative Analysis of Lifecycle Models** — 6 classes
  - 3.1 Identify Key Characteristics of Software Lifecycle Models
  - 3.2 Compare and Contrast Traditional Waterfall and Agile Models
  - 3.3 Analyze the Pros and Cons of Iterative Development Approaches
  - 3.4 Evaluate the Impact of DevOps on Software Lifecycle Management
  - 3.5 Apply a Case Study to Examine Model Suitability for Specific Projects
  - 3.6 Discuss Future Trends and Innovations in Software Lifecycle Models
- **4 Tailoring Software Lifecycle Models for Projects** — 6 classes
  - 4.1 Define Key Software Lifecycle Models in Project Context
  - 4.2 Assess Project Requirements to Choose Appropriate Lifecycle Model
  - 4.3 Identify Benefits and Limitations of Different Lifecycle Models
  - 4.4 Tailor Lifecycle Models for Specific Project Needs
  - 4.5 Integrate Stakeholder Perspectives into Lifecycle Model Selection
  - 4.6 Evaluate the Effectiveness of Tailored Lifecycle Models in Practice
- **5 Future Trends in Software Lifecycle Management** — 6 classes
  - 5.1 Analyze Emerging Software Lifecycle Models
  - 5.2 Evaluate the Impact of AI on Software Lifecycle Management
  - 5.3 Explore Agile Methodologies in Future Contexts
  - 5.4 Assess the Role of DevOps in Evolving Software Processes
  - 5.5 Implement Best Practices for Continuous Integration and Delivery
  - 5.6 Predict Future Skills Needed for Software Lifecycle Leadership

## 5 Software Quality Assurance

5 chapters · 30 classes **65 marks**

- **1 Fundamentals of Software Quality Assurance** — 6 classes
  - 1.1 Define Software Quality Assurance Principles
  - 1.2 Identify Key Software Quality Assurance Processes
  - 1.3 Examine Roles and Responsibilities in SQA
  - 1.4 Analyze Common Software Quality Metrics
  - 1.5 Evaluate Techniques for Quality Assurance in Software Development
  - 1.6 Implement a Basic Software Quality Assurance Plan
- **2 ISO 12207SFT Standards and Compliance** — 6 classes
  - 2.1 Understand ISO 12207SFT: Overview of Software Lifecycle Processes
  - 2.2 Explore Key Principles of Software Quality Assurance
  - 2.3 Identify ISO 12207SFT Compliance Requirements for Projects
  - 2.4 Analyze the Role of Documentation in Quality Assurance
  - 2.5 Implement Best Practices for Ensuring Software Quality
  - 2.6 Evaluate Real-World Case Studies of ISO 12207SFT Compliance
- **3 Quality Assurance Processes and Methodologies** — 6 classes
  - 3.1 Understand Quality Assurance Fundamentals in Software Development
  - 3.2 Explore Key Quality Assurance Processes in ISO 12207
  - 3.3 Analyze Quality Assurance Methodologies and Best Practices
  - 3.4 Implement Effective Quality Assurance Techniques in Software Projects
  - 3.5 Evaluate Quality Assurance Metrics and Performance Indicators
  - 3.6 Develop a Quality Assurance Plan for Software Lifecycle Management
- **4 Testing Strategies for Quality Assurance** — 6 classes
  - 4.1 Analyze Testing Goals for Quality Assurance
  - 4.2 Identify Types of Testing Strategies in Software Development
  - 4.3 Develop Test Plans Aligned with Quality Assurance Standards
  - 4.4 Implement Automated Testing Tools for Efficiency
  - 4.5 Evaluate Test Results to Ensure Quality Compliance
  - 4.6 Optimize Testing Processes for Continuous Improvement
- **5 Continuous Improvement and Quality Metrics** — 6 classes
  - 5.1 Analyze Current Quality Metrics for Improvement Opportunities
  - 5.2 Implement Data Collection Techniques for Software Quality
  - 5.3 Evaluate the Effectiveness of Quality Assurance Practices
  - 5.4 Develop Action Plans Based on Quality Assessment Results
  - 5.5 Foster a Culture of Continuous Improvement in Teams
  - 5.6 Utilize Feedback Loops to Enhance Software Development Processes

## 6 Team Leadership and Mentoring

5 chapters · 30 classes **65 marks**

- **1 Foundations of Team Leadership in Software Projects** — 6 classes
  - 1.1 Identify Key Attributes of Effective Team Leaders
  - 1.2 Explore Team Dynamics in Software Development
  - 1.3 Develop Communication Strategies for Leadership
  - 1.4 Implement Mentoring Techniques within Teams
  - 1.5 Assess Conflict Resolution Strategies in Team Settings
  - 1.6 Evaluate Team Performance Metrics and Improvement Plans
- **2 Building Effective Communication Strategies** — 6 classes
  - 2.1 Assess Current Communication Styles in Teams
  - 2.2 Develop Clear Communication Objectives
  - 2.3 Implement Active Listening Techniques
  - 2.4 Utilize Feedback Loops for Improvement
  - 2.5 Create Tailored Communication Plans
  - 2.6 Evaluate Communication Strategy Effectiveness
- **3 Fostering a Positive Team Culture and Dynamics** — 6 classes
  - 3.1 Identify Core Values that Shape Team Culture
  - 3.2 Assess Current Team Dynamics and Communication Styles
  - 3.3 Develop Strategies for Encouraging Collaboration and Inclusivity
  - 3.4 Implement Conflict Resolution Techniques to Enhance Team Cohesion
  - 3.5 Establish Mentorship Programs to Support Team Member Growth
  - 3.6 Evaluate the Impact of a Positive Team Culture on Performance Metrics
- **4 Mentoring Techniques for Software Leaders** — 6 classes
  - 4.1 Define Mentoring and Its Importance in Software Leadership
  - 4.2 Identify Key Traits of an Effective Mentor in Tech
  - 4.3 Explore Different Mentoring Styles and Their Applications
  - 4.4 Develop Active Listening Skills for Better Mentoring
  - 4.5 Implement Goal-Setting Techniques in Mentoring Relationships
  - 4.6 Evaluate Mentoring Outcomes to Enhance Team Performance
- **5 Leading Teams Through Change and Conflict Resolution** — 6 classes
  - 5.1 Understand the Dynamics of Change in Teams
  - 5.2 Identify Common Sources of Conflict in Team Settings
  - 5.3 Develop Strategies for Effective Change Communication
  - 5.4 Employ Conflict Resolution Techniques to Foster Team Cohesion
  - 5.5 Facilitate Team Discussions to Address Resistance and Concerns
  - 5.6 Create an Action Plan for Leading Teams Through Change