

# LAPT

LONDON ACADEMY OF PROFESSIONAL TRAINING

CERTIFICATE

## ISO 13628 — Petroleum Subsea Production Systems

*ISO Certification Programme*



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### LAPT — London Academy of Professional Training

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**Reference** ENG-FSL-13628 • ISO Energy

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AT A GLANCE

|               |                                                |
|---------------|------------------------------------------------|
| REFERENCE     | ENG-FSL-13628                                  |
| AWARD         | Certificate                                    |
| ASSESSMENT    | 430 marks — 258 to pass (60%)                  |
| PREREQUISITES | None                                           |
| VALIDITY      | Lifetime                                       |
| AWARDING BODY | LAPT — London Academy of Professional Training |

CURRICULUM

1

Advanced Subsea Systems Management

5 chapters · 30 classes 85 marks

• 1 Fundamentals of Subsea Production Systems — 6 classes

› 1.1 Describe the Key Components of Subsea Production Systems

› 1.2 Analyze the Role of Subsea Trees in Production Efficiency

› 1.3 Examine the Importance of Flowlines and Risers in Subsea Operations

› 1.4 Identify Safety and Environmental Considerations in Subsea System Design

› 1.5 Discuss the Impact of Technology Advances on Subsea Production

› 1.6 Evaluate Real-World Case Studies of Subsea Production Systems Implementation

• 2 Design Considerations for Advanced Subsea Systems — 6 classes

› 2.1 Analyze Key Factors in Subsea System Design

› 2.2 Evaluate Material Selection for Harsh Environments

› 2.3 Assess Hydrodynamic Forces on Subsea Structures

› 2.4 Integrate Safety Protocols into Subsea Design Plans

› 2.5 Develop Strategies for Maintenance and Reliability

› 2.6 Create Prototypes for Advanced Subsea Technologies

• 3 Installation and Commissioning of Subsea Infrastructure — 6 classes

› 3.1 Assess Site Conditions for Subsea Infrastructure Installation

› 3.2 Select Appropriate Installation Techniques for Subsea Systems

› 3.3 Implement Safety Protocols During Installation Procedures

› 3.4 Utilize Technology for Real-time Monitoring in Installation

› 3.5 Conduct Commissioning Procedures for Subsea Infrastructure

› 3.6 Evaluate Performance Post-Installation for Continuous Improvement

• 4 Maintenance Strategies and Reliability Engineering — 6 classes

› 4.1 Analyze Maintenance Strategies for Subsea Systems

› 4.2 Evaluate Reliability Engineering Principles in Subsea Operations

› 4.3 Identify Common Failures in Subsea Production Systems

› 4.4 Develop Effective Maintenance Plans for Subsea Equipment

› 4.5 Implement Condition-Based Monitoring Techniques

› 4.6 Create a Reliability Improvement Action Plan for Subsea Systems

• 5 Emerging Technologies in Subsea Production Management — 6 classes

› 5.1 Explore Innovations in Subsea Sensors and Monitoring

› 5.2 Analyze the Impact of Robotics in Subsea Operations

› 5.3 Evaluate Advanced Data Analytics for Production Optimization

› 5.4 Implement Remote Operated Vehicle (ROV) Applications

› 5.5 Integrate Renewable Energy Sources in Subsea Systems

› 5.6 Design a Case Study on Emerging Technologies for Enhanced Recovery

**• 1 Fundamentals of Environmental Regulations in the Oil and Gas Sector** — 6 classes

- › 1.1 Define Key Environmental Regulations in Oil and Gas
- › 1.2 Assess the Impact of Oil and Gas Operations on the Environment
- › 1.3 Explain the Role of Compliance in Environmental Stewardship
- › 1.4 Identify Common Violations and Penalties in the Industry
- › 1.5 Evaluate Case Studies of Environmental Regulation Failures
- › 1.6 Formulate Strategies for Achieving Regulatory Compliance

**• 2 Key International Standards and ISO 13628 Compliance** — 6 classes

- › 2.1 Identify Key International Standards Related to ISO 13628
- › 2.2 Analyze the Structure and Components of ISO 13628
- › 2.3 Evaluate Environmental Regulations Impacting Subsea Production Systems
- › 2.4 Compare ISO 13628 Compliance with Other International Standards
- › 2.5 Assess the Importance of Compliance in Leadership for Environmental Sustainability
- › 2.6 Develop a Compliance Strategy for ISO 13628 in Subsea Projects

**• 3 Regional Environmental Legislation and Impact Assessments** — 6 classes

- › 3.1 Explore Regional Environmental Legislation Frameworks
- › 3.2 Analyze Key Components of Environmental Impact Assessments
- › 3.3 Evaluate the Role of Stakeholders in Environmental Compliance
- › 3.4 Investigate the Impact of Non-Compliance on Subsea Operations
- › 3.5 Develop Mitigation Strategies for Environmental Impacts
- › 3.6 Implement Best Practices for Compliance and Reporting

**• 4 Best Practices for Environmental Risk Management** — 6 classes

- › 4.1 Identify Key Environmental Risks in Subsea Operations
- › 4.2 Assess Compliance with Environmental Regulations
- › 4.3 Analyze Best Practices for Environmental Risk Mitigation
- › 4.4 Develop an Environmental Management Plan for Subsea Projects
- › 4.5 Implement Monitoring Strategies for Environmental Compliance
- › 4.6 Evaluate and Report on Environmental Performance Outcomes

**• 5 Monitoring, Reporting, and Compliance Auditing** — 6 classes

- › 5.1 Identify Key Environmental Regulations Impacting Subsea Operations
- › 5.2 Understand the Importance of Monitoring in Compliance Management
- › 5.3 Explore Techniques for Effective Environmental Reporting
- › 5.4 Analyze Case Studies of Monitoring Failures and Their Consequences
- › 5.5 Develop a Compliance Audit Checklist for Subsea Production Systems
- › 5.6 Implement Best Practices for Continuous Compliance Improvement

**• 1 Overview of Subsea Production Systems and Their Evolution** — 6 classes

- › 1.1 Define Subsea Production Systems and Their Importance
- › 1.2 Explore the Historical Evolution of Subsea Technologies
- › 1.3 Identify Key Components of Modern Subsea Production Systems
- › 1.4 Analyze Innovations Impacting Subsea Production Efficiency
- › 1.5 Assess Case Studies of Successful Subsea Implementations
- › 1.6 Discuss Future Trends and Challenges in Subsea Technology

**• 2 Core Technologies in Subsea Infrastructure** — 6 classes

- › 2.1 Explore An Overview of Core Subsea Technologies
- › 2.2 Analyze the Role of Flow Assurance in Subsea Systems
- › 2.3 Examine the Functions of Subsea Control Systems
- › 2.4 Investigate Subsea Processing Techniques and Innovations
- › 2.5 Discuss Safety Protocols in Subsea Operations
- › 2.6 Apply Best Practices in Subsea Infrastructure Design

**• 3 Innovations in Subsea Automation and Control Systems** — 6 classes

- › 3.1 Explore the Fundamentals of Subsea Automation Technologies
- › 3.2 Analyze the Role of Sensors in Subsea Control Systems
- › 3.3 Evaluate Data Communication Protocols in Subsea Environments
- › 3.4 Investigate Real-Time Monitoring Techniques in Subsea Operations
- › 3.5 Design a Basic Subsea Control System Prototype
- › 3.6 Apply Innovations in Automation to Enhance Subsea Safety and Efficiency

**• 4 Sustainability and Environmental Considerations in Subsea Technology** — 6 classes

- › 4.1 Assess Environmental Impacts of Subsea Technology
- › 4.2 Explore Innovations for Sustainable Subsea Practices
- › 4.3 Evaluate the Role of Renewable Energy in Subsea Systems
- › 4.4 Identify Best Practices for Reducing Subsea Waste
- › 4.5 Analyze Case Studies on Successful Sustainable Projects
- › 4.6 Plan Implementation Strategies for Eco-friendly Solutions

**• 5 Future Trends and Emerging Technologies in Subsea Production** — 6 classes

- › 5.1 Analyze Emerging Subsea Technologies Impacting Production Efficiency
- › 5.2 Explore Innovations in Autonomous Subsea Vehicles
- › 5.3 Evaluate the Role of Digital Twin Technology in Subsea Systems
- › 5.4 Investigate Advances in Subsea Control Systems and Automation
- › 5.5 Assess Trends in Sustainable Practices within Subsea Production
- › 5.6 Implement Case Studies of Successful Subsea Technology Integrations

### • 1 Understanding the Dynamics of Multi-Disciplinary Teams in Subsea Production — 6 classes

- › 1.1 Define Multi-Disciplinary Teams in Subsea Production
- › 1.2 Identify Key Roles and Responsibilities within the Team
- › 1.3 Explore Communication Strategies for Effective Collaboration
- › 1.4 Analyze Conflict Resolution Techniques in Team Dynamics
- › 1.5 Evaluate Case Studies of Successful Multi-Disciplinary Teams
- › 1.6 Develop a Plan for Enhancing Team Performance and Leadership

### • 2 Effective Communication Strategies for Leadership in Fossil Fuel Projects — 6 classes

- › 2.1 Identify Key Communication Barriers in Subsea Leadership
- › 2.2 Explore Active Listening Techniques for Effective Team Interaction
- › 2.3 Utilize Clear and Concise Messaging in Technical Discussions
- › 2.4 Develop Strategies for Cross-Disciplinary Team Collaboration
- › 2.5 Assess the Impact of Non-Verbal Communication in Leadership
- › 2.6 Implement Feedback Mechanisms for Continuous Improvement in Communication

### • 3 Conflict Resolution and Decision-Making in Multi-Disciplinary Environments — 6 classes

- › 3.1 Identify Sources of Conflict in Multi-Disciplinary Teams
- › 3.2 Analyze the Impact of Conflict on Team Dynamics
- › 3.3 Explore Conflict Resolution Styles and Their Effectiveness
- › 3.4 Apply Active Listening Techniques to Resolve Disputes
- › 3.5 Develop Decision-Making Strategies for Collaborative Solutions
- › 3.6 Create a Conflict Resolution Action Plan for Team Scenarios

### • 4 Cultural Competence and Team Integration in Global Projects — 6 classes

- › 4.1 Understand Cultural Competence in Global Teams
- › 4.2 Identify Challenges in Multi-Disciplinary Team Dynamics
- › 4.3 Analyze Case Studies of Successful Team Integration
- › 4.4 Develop Strategies for Effective Cross-Cultural Communication
- › 4.5 Apply Leadership Techniques to Enhance Team Cohesion
- › 4.6 Evaluate the Impact of Cultural Differences on Project Outcomes

### • 5 Leading Innovation and Change in Subsea Production Systems — 6 classes

- › 5.1 Identify Key Drivers of Innovation in Subsea Production
- › 5.2 Analyze the Challenges of Leading Multi-Disciplinary Teams
- › 5.3 Develop Strategies for Fostering Team Collaboration
- › 5.4 Implement Change Management Techniques in Subsea Projects
- › 5.5 Evaluate the Impact of Innovation on Subsea Production Systems
- › 5.6 Craft a Vision for Leading Future Innovations in Subsea Production

### • 1 Fundamentals of Project Planning in Subsea Production Systems — 6 classes

- › 1.1 Define Key Concepts in Subsea Project Planning
- › 1.2 Analyze Components of Subsea Production Systems
- › 1.3 Identify Stages of Subsea Project Development
- › 1.4 Evaluate Risk Factors in Subsea Projects
- › 1.5 Develop a Basic Project Plan for Subsea Operations
- › 1.6 Present and Justify Risk Mitigation Strategies

### • 2 Identifying and Analyzing Project Risks — 6 classes

- › 2.1 Define Project Risks in Subsea Production Systems
- › 2.2 Identify Common Risks in Subsea Projects
- › 2.3 Utilize Risk Assessment Tools for Subsea Projects
- › 2.4 Analyze the Impact of Identified Risks
- › 2.5 Develop Mitigation Strategies for Key Risks
- › 2.6 Create a Risk Management Plan for a Subsea Project

### • 3 Risk Assessment Tools and Techniques in Oil and Gas Projects — 6 classes

- › 3.1 Identify Key Risks in Oil and Gas Projects
- › 3.2 Analyze the Impact of Risks on Project Objectives
- › 3.3 Evaluate Risk Assessment Tools and Their Applications
- › 3.4 Implement Qualitative Risk Analysis Techniques
- › 3.5 Conduct Quantitative Risk Assessment for Subsea Production Systems
- › 3.6 Develop Risk Mitigation Strategies for Effective Project Planning

### • 4 Developing Risk Mitigation Strategies for Subsea Operations — 6 classes

- › 4.1 Identify Key Risks in Subsea Operations
- › 4.2 Analyze Risk Levels and Their Impacts
- › 4.3 Develop Risk Mitigation Techniques for Subsea Systems
- › 4.4 Create a Risk Response Plan for Project Scenarios
- › 4.5 Evaluate the Effectiveness of Mitigation Strategies
- › 4.6 Apply Lessons Learned to Future Subsea Projects

### • 5 Integrating Risk Management into Project Planning Frameworks — 6 classes

- › 5.1 Define Risk Management Concepts in Project Planning
- › 5.2 Identify Key Risks in Subsea Production Projects
- › 5.3 Assess the Impact of Identified Risks on Project Objectives
- › 5.4 Develop Mitigation Strategies for Project Risks
- › 5.5 Integrate Risk Management into Project Planning Frameworks
- › 5.6 Evaluate the Effectiveness of Risk Management Strategies in Projects

**• 1 Understanding the Principles of Sustainability in Subsea****Production** — 6 classes

- › 1.1 Define sustainability principles in the context of subsea production
- › 1.2 Analyze the impact of subsea production on marine ecosystems
- › 1.3 Evaluate current sustainability practices in subsea production systems
- › 1.4 Explore technological innovations that enhance sustainability in subsea production
- › 1.5 Assess regulatory frameworks guiding sustainability in the offshore industry
- › 1.6 Develop a strategic plan for implementing sustainable practices in subsea projects

**• 2 Regulatory Frameworks and Standards for Sustainable****Operations** — 6 classes

- › 2.1 Identify Key Regulatory Frameworks for Sustainable Operations
- › 2.2 Analyze ISO 13628 Standards and Their Implications
- › 2.3 Evaluate the Role of Regulatory Compliance in Sustainability
- › 2.4 Assess Case Studies of Successful Sustainable Practices
- › 2.5 Develop Strategies for Implementing Regulatory Standards
- › 2.6 Formulate a Plan for Continuous Improvement in Compliance

**• 3 Assessing Environmental Impacts of Subsea Activities** — 6 classes

- › 3.1 Identify Key Environmental Impacts of Subsea Activities
- › 3.2 Analyze Regulatory Frameworks for Environmental Assessment
- › 3.3 Evaluate Assessment Techniques for Subsea Operations
- › 3.4 Discuss Stakeholder Perspectives on Environmental Impact
- › 3.5 Develop Mitigation Strategies for Environmental Risks
- › 3.6 Create an Action Plan for Sustainable Subsea Practices

**• 4 Innovative Technologies and Practices for Enhanced****Sustainability** — 6 classes

- › 4.1 Assess Innovative Technologies for Subsea Production Systems
- › 4.2 Evaluate the Impact of New Practices on Environmental Sustainability
- › 4.3 Integrate Data Analytics to Optimize Resource Use
- › 4.4 Design a Sustainable Subsea Project Using Emerging Technologies
- › 4.5 Develop Strategies for Stakeholder Engagement on Sustainability Initiatives
- › 4.6 Implement a Monitoring Framework for Sustainability Outcomes in Subsea Operations

**• 5 Developing Leadership Strategies for Sustainable Subsea****Management** — 6 classes

- › 5.1 Analyze Leadership Theories for Sustainable Practices
- › 5.2 Identify Key Stakeholders in Subsea Management
- › 5.3 Develop Communication Strategies for Sustainability Initiatives
- › 5.4 Implement Decision-Making Frameworks for Environmental Impact
- › 5.5 Assess Performance Metrics for Sustainable Leadership
- › 5.6 Design an Action Plan for Effective Subsea Leadership