

ISO 19157-1:2023 - Certified Lead Auditor



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ISO 19157-1:2023 - Certified Lead Auditor - Certification Overview

The ISO 19157-1:2023 Certified Lead Auditor certification is designed for professionals responsible for evaluating, auditing, and assuring the quality of geographic information and geospatial datasets. This certification validates the knowledge and skills required to assess data quality principles, quality measures, evaluation procedures, and reporting requirements in accordance with the internationally recognized ISO 19157-1:2023 standard for geographic information data quality.

The certification equips candidates with the competencies needed to plan, conduct, manage, and report geospatial data quality audits across government, commercial, and research environments. Participants gain a comprehensive understanding of data quality elements, quality evaluation methodologies, conformance assessment techniques, audit processes, and best practices for identifying, documenting, and addressing data quality issues throughout the data lifecycle.

Professionals who achieve the ISO 19157-1:2023 Certified Lead Auditor credential demonstrate their ability to lead audit teams, evaluate compliance with geospatial data quality requirements, and support organizations in establishing effective data quality assurance frameworks. The certification is intended for GIS professionals, geospatial analysts, quality managers, data stewards, auditors, consultants, and other practitioners seeking to strengthen organizational confidence in the accuracy, consistency, completeness, and fitness-for-purpose of geographic information assets.

Target Audience

The ISO 19157-1:2023 Certified Lead Auditor certification is intended for professionals involved in the management, assessment, auditing, governance, and quality assurance of geographic information and geospatial datasets. This program is suitable for individuals seeking to develop expertise in geospatial data quality evaluation and lead audit activities based on international standards.

- GIS Managers and GIS Coordinators
- Geospatial Data Quality Specialists
- GIS Analysts and Senior GIS Analysts
- Geospatial Data Stewards and Data Custodians
- Remote Sensing and Earth Observation Professionals
- Surveying and Mapping Professionals
- Spatial Data Infrastructure (SDI) Professionals
- Quality Assurance and Quality Control (QA/QC) Personnel
- Internal and External Auditors
- Data Governance and Data Management Professionals
- Government Officials responsible for Geospatial Programs
- Smart City, Land Administration, and Infrastructure Professionals

- Geospatial Consultants and Project Managers
- Researchers, Academics, and GIS Trainers
- Professionals involved in ISO-based Compliance and Quality Management Systems

What Modules are covered?

Module 1 - Introduction to ISO 19157-1:2023 and Geospatial Data Quality

- Overview of Geographic Information Standards
- Fundamentals of Geospatial Data Quality
- Structure and Scope of ISO 19157-1:2023
- Data Quality Principles and Concepts
- Roles and Responsibilities of a Lead Auditor

Module 2 - Data Quality Elements and Quality Measures

- Completeness and Data Integrity
- Logical Consistency Assessment
- Positional Accuracy Evaluation
- Thematic Accuracy and Attribute Quality
- Temporal Quality and Quality Measures

Module 3 - Geospatial Data Quality Evaluation

- Data Quality Evaluation Frameworks
- Direct and Indirect Evaluation Methods
- Sampling Techniques for Quality Assessment
- Quality Reporting and Documentation
- Conformance Testing and Validation

Module 4 - Audit Planning and Audit Execution

- Audit Principles and Methodologies
- Audit Planning and Preparation
- Conducting Opening and Closing Meetings
- Evidence Collection and Verification Techniques
- Audit Findings, Nonconformities, and Corrective Actions

Module 5 - Lead Auditor Competencies and Risk Management

- Auditor Ethics and Professional Conduct
- Communication and Interviewing Skills
- Risk-Based Thinking in Geospatial Data Quality
- Root Cause Analysis and Continuous Improvement
- Managing Audit Teams and Stakeholder Engagement

Module 6 - Compliance Assessment and Certification Audits

- ISO 19157-1:2023 Compliance Requirements
- Audit Reporting and Follow-Up Activities
- Corrective Action Review and Verification
- Case Studies in Geospatial Data Quality Auditing
- Lead Auditor Examination and Practical Assessment

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