

Updated on 05/13/2026

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Cisco AITECH Certification Training

5 days (35 hours)

Overview

Cisco AI Technical Practitioner is a certification that validates the skills needed to leverage artificial intelligence in technical contexts: automation, data analysis, code assistance, AI workflows, and governance.

You will learn to use generative AI to improve your technical tasks, optimize your workflows, analyze data, generate code, document your work, and design reliable AI applications.

You will be able to build effective prompts, evaluate a model's responses, understand RAG and fine-tuning approaches, identify security risks, and implement appropriate AI governance.

Through a case-study-driven approach and hands-on workshops, this training will prepare you to integrate AI into your technical activities while adhering to best practices in security, ethics, and quality.

Upon completion of the training, you will be ready to take the 810-110 AITECH exam and earn the Cisco AI Technical Practitioner certification.

Like all our training courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Prepare for the 810-110 AITECH exam.
- Master the fundamentals of generative AI.
- Create effective prompts for technical use cases.

- Use AI for coding, data analysis, and automation.
- Apply best practices in AI security, ethics, and governance.

Target Audience

- Developers
- DevOps engineers
- System and network administrators
- Data Analysts
- Technical project managers
- IT professionals looking to integrate AI into their workflows

Prerequisites

- General knowledge of computer science
- Basic knowledge of development or scripting
- Understanding of technical IT workflows
- Interest in generative AI and automation

Technical requirements

- Laptop with at least 8 GB of RAM and administrator privileges.
- Stable internet connection to access AI tools and Cisco resources.
- A modern web browser: Chrome, Firefox, or Edge.
- Code editor installed, such as Visual Studio Code.

Cisco AITECH Certification Training Program

[Day 1 - Morning]

Fundamentals of Applied Artificial Intelligence

- Understanding the key concepts of artificial intelligence
- Distinguish between generative AI, machine learning, and automation
- Identifying technical use cases for AI in business
- Understand the positioning of the Cisco AITECH certification
- Discover the skills assessed by the 810-110 AITECH exam
- Hands-on workshop: Analysis of AI use cases for a technical team.

[Day 1 - Afternoon]

Generative models and how LLMs work

- Understanding how Large Language Models work
- Identifying the strengths and limitations of generative models
- Understanding the concepts of context, tokens, and hallucinations
- Compare the uses of general-purpose and specialized models
- Analyzing the business and technical impacts of LLMs
- Hands-on workshop: Evaluating responses generated by an AI model.

Prompt engineering and response quality

- Structuring a clear and actionable prompt
- Using prompt engineering techniques
- Improving the accuracy, context, and reproducibility of responses
- Identifying ineffective or risky prompts
- Create prompts tailored to technical tasks
- Hands-on workshop: Building a library of technical prompts.

[Day 2 - Morning]

AI for coding, debugging, and testing

- Using AI to assist with software development
- Generating, explaining, and refactoring code
- Identifying the Limits of AI-Assisted Coding
- Automating the creation of unit tests
- Detecting errors, vulnerabilities, and bad practices
- Hands-on workshop: AI-assisted debugging and test generation.

[Day 2 - Afternoon]

Data analysis with artificial intelligence

- Preparing data for AI-assisted analysis
- Identifying biases, anomalies, and inconsistent values
- Using AI to explore and synthesize datasets
- Interpreting results and generating recommendations
- Understanding the limitations of automated analysis
- Hands-on workshop: AI-assisted analysis of a business dataset.

Automation of technical workflows

- Identifying tasks that can be automated with AI
- Structuring an AI-assisted technical workflow
- Automate documentation, qualification, and reporting
- Integrate AI into DevOps and IT processes
- Measuring the benefits and limitations of AI automation
- Hands-on workshop: Creating an AI workflow for an IT task.

[Day 3 - Morning]

RAG, fine-tuning, and model customization

- Understanding the differences between RAG and fine-tuning
- Identifying use cases suited to each approach
- Preparing a document repository usable by AI
- Understanding the challenges of data quality and freshness
- Assessing the risks of model customization
- Hands-on workshop: Designing a simple RAG use case.

[Day 3 - Afternoon]

AI agents and agent-based systems

- Understanding the principles of AI agents
- Identifying the components of an agent-based system
- Define objectives, tools, and execution constraints
- Assess the risks of excessive autonomy
- Designing controlled agent-based workflows
- Hands-on workshop: Modeling an AI agent for a technical task.

AI security, governance, and compliance

- Identify risks associated with the use of generative AI
- Understanding privacy and data protection issues
- Establishing AI usage and governance policies
- Preventing leaks of sensitive information
- Apply AI security best practices
- Hands-on workshop: Auditing AI usage in a professional context.

[Day 4 - Morning]

Ethics, bias, and accountability of AI systems

- Understanding the challenges of AI ethics
- Identifying biases in data and generated responses
- Assessing human, business, and legal impacts
- Implementing human validation controls
- Developing a responsible approach to AI
- Hands-on workshop: Ethical analysis of an AI scenario.

[Day 4 - Afternoon]

AI for technical team productivity

- Using AI to accelerate technical research
- Improving documentation and knowledge capture
- Optimizing team workflows with AI
- Create specialized assistants for recurring tasks
- Defining best practices for AI adoption
- Hands-on workshop: Creating an AI assistant for an IT team.

Monitoring, maintaining, and optimizing AI usage

- Measuring the quality and relevance of AI results
- Identify deviations, errors, and operational limitations
- Implementing monitoring metrics
- Maintaining prompts, workflows, and knowledge bases
- Optimizing costs, performance, and usage risks
- Hands-on workshop: Implementing an AI evaluation grid.

[Day 5 - Morning]

Business case studies and operational integration

- Identifying high-value-added AI use cases
- Prioritizing business and technical requirements
- Build a simple, measurable, and controlled AI solution
- Define success and validation criteria
- Preparing for the deployment of an AI use case as a team
- Hands-on workshop: Designing a mini operational AI project.

[Day 5 - Afternoon]

Targeted review and certification strategy

- Review key areas of the 810-110 AITECH exam
- Identify common pitfalls in Cisco questions
- Develop an effective review strategy
- Analyze sample questions and exam scenarios
- Strengthen weak areas before the final assessment
- Hands-on workshop: Guided quiz on AITECH topics.

Final preparation for the Cisco AITECH exam

- Understand the structure of the Cisco AI Technical Practitioner exam
- Manage your time during a 60-minute exam
- Review AI topics, prompts, code, data, security, and agents
- Analyzing incorrect answers and reinforcing what you've learned
- Developing a certification exam strategy

- Hands-on workshop: Taking a practice exam + review.

Target Audience

This training is intended for both individuals and companies, large or small, seeking to train their teams in new advanced IT technologies or to acquire specific industry knowledge or modern methodologies.

Entry-level assessment

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency in various types of technologies, as well as their expectations and personal goals for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth running of the training session.

Teaching Methods

Practical Course: 60% Practical, 40% Theory. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the instructor, supported by examples and reflection sessions, and group work.

Assessment

At the end of the session, a multiple-choice questionnaire is used to verify that the skills have been properly acquired.

Certification

A certificate will be issued to each trainee who has completed the entire training program.