



Fee

50,00 €

Final exam only

Course technical sheet

Artificial Intelligence (AI) and Machine Learning – Exam

Course code

AI_ML_LA

Test duration

60 min

Passing score

70%

Issued

27/05/2026

Executive summary

The course "Artificial Intelligence (AI) and Machine Learning – Exam" provides an in-depth overview of key concepts and methodologies in AI and machine learning. Starting from fundamental learning paradigms such as supervised, unsupervised, semi-supervised, and reinforcement learning, the course covers data preparation including cleaning, feature engineering, and normalization. It examines major machine learning algorithms like regression, classification, clustering, decision trees, ensembles, and SVMs, and explains training and validation pipelines including cross-validation and evaluation metrics (accuracy, precision/recall, F1, AUC, RMSE). Advanced topics such as overfitting, underfitting, regularization, interpretability using tools like SHAP and LIME, and an introduction to neural networks and deep learning are also included. A section is dedicated to MLOps, focusing on data/model versioning and monitoring. Finally, the course addresses ethics, bias, privacy, and security issues related to AI/ML models, preparing participants to successfully pass a professional-level exam.

Certification process

- Registration or login to the Academy platform.
- Completion of the final course examination only. Any training or preparation may be completed externally or through other channels.
- The test questions refer to the objectives, skills and topics described in this technical sheet.
- Assessment of the result, possible validation and certificate issuance according to the rules applicable to the course.

Important note

On Academy, candidates take only the final course examination. Any training or preparation activity may be delivered externally or through other channels. The test questions refer to the topics described in this technical sheet and in the course syllabus summary.

Syllabus summary

Core concepts of AI and Machine Learning + learning paradigms (supervised, unsupervised, semi-supervised, reinforcement) + data preparation (cleaning, feature engineering, normalization) + main ML algorithms (regression, classification, clustering, trees/ensembles, SVM) + training/validation pipelines (train/test, cross-validation) + evaluation metrics (accuracy, precision/recall, F1, AUC, RMSE) + overfitting/underfitting and regularization + interpretability and explainability (feature importance, SHAP/LIME overview) + introduction to neural networks and Deep Learning (core concepts) + basic MLOps (data/model versioning, monitoring) + ethics, bias, privacy and security in models

Certification Bodies Management systems

IFZA Business Park - Building A2 - Nadd Hessa - Dubai Silicon Oasis
United Arab Emirates
Phone: +971 502475030
Email: info@certificatoiwz.org
VAT/Tax ID: 104216397000003

Course technical sheet

AI_ML_LA
Page 1
Document generated automatically by Academy
Artificial Intelligence (AI) and Machine Learning – Exam

Learning Objectives

- Understand fundamental AI and machine learning principles.
- Apply data preparation and feature engineering techniques.
- Use and evaluate main ML algorithms.
- Implement training and validation pipelines.
- Manage overfitting, underfitting, and regularization issues.
- Introduce interpretability concepts and deep learning models.
- Apply basic MLOps principles.
- Recognize ethical and security implications.

Skills Acquired

- Designing and evaluating AI/ML models.
- Data cleaning and preparation.
- Utilizing model interpretability techniques.
- Understanding MLOps practices.
- Critical analysis of bias and privacy concerns.

Target Audience

- IT professionals and data scientists in training.
- Graduates and technicians interested in AI.
- Candidates preparing for AI/ML certification.

Prerequisites

- Basic knowledge of statistics and programming.
- Familiarity with basic computer science concepts.

Program

- AI fundamentals and learning paradigms.
- Data preparation: cleaning, feature engineering.
- Core ML algorithms: regression, classification, clustering, etc.
- Training, validation, evaluation metrics.
- Overfitting, underfitting, regularization.
- Interpretability (feature importance, SHAP, LIME).
- Introduction to neural networks and deep learning.
- MLOps: versioning, monitoring.
- Ethics, bias, privacy, security.

Teaching Methodology

- Theoretical lessons and case study analysis.
- Practical exercises and exam simulations.

Assessment Method

- 60-minute exam with multiple-choice questions and practical cases.
- Pass mark: 70% correct answers.

Duration

- 60 minutes exam.

Certification

- Certificate issued upon passing, fee: 50.00 euros.

Expected Outcomes

- Ability to design and evaluate ML models in real scenarios.
- Awareness of ethical and operational issues in AI deployment.