

# COURSE AGENDA

## Artificial Intelligence (AI)

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A professional training programme focused on artificial intelligence, machine learning, digital transformation and responsible technology adoption

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|-----------------------------|------------------------------------|----------------------------|
| <b>15 Hours</b><br>Duration | <b>eLearning</b><br>Primary format | <b>English</b><br>Language |
|-----------------------------|------------------------------------|----------------------------|

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|-----------------------------|------------------------------------------------------------------|
| <b>Primary format</b>       | eLearning course delivered through the digital learning platform |
| <b>Available on request</b> | Live trainer-led online delivery or in-house classroom training  |
| <b>Contact us</b>           | Request a tailored quote for your organisation                   |

## About Us

This course is delivered by a team with strong expertise in cybersecurity, digital resilience, emerging technologies and secure digital transformation. Our work is grounded in internationally recognised standards, European regulatory requirements and practical experience supporting organisations operating in complex, regulated and technology-driven environments.

**INFOSEC CENTER** holds ISO/IEC 27001 certification for information security management and, reflecting a structured and responsible approach to cybersecurity, data protection, governance and AI-enabled technologies. The organisation is also recognised as an **EASA-approved** training provider for specialised aviation cybersecurity training, aligned with European aviation safety and information security requirements.

Our innovation capacity has been recognised through the **Impact Stars distinction** at the **Deloitte Technology Fast 50**, awarded for the innovation delivered by our Machine Learning platform. This reflects our commitment to practical, high-impact technology solutions that combine advanced digital capabilities with real business and societal value.

We are actively connected to European digital innovation networks, including the **European DIGITAL SME Alliance** and the **BSC AI Factory Incubation Program**, contributing to secure, competitive and responsible digital transformation across Europe.

Our broader innovation platform, **FACTORY X.0**, supports the secure transformation of industrial and digital ecosystems by integrating cybersecurity, automation, artificial intelligence, industrial digitalisation and advanced technology adoption, with a focus on resilience, compliance and sustainable innovation.

We support organisations in understanding cyber risk, strengthening digital infrastructure, improving governance, preparing for regulatory compliance and building a stronger security culture across aviation, industry, education, public services and digital business.

## Why This Course Matters

Artificial Intelligence is no longer a specialised topic reserved only for research laboratories or large technology companies. It is now a practical capability that influences business operations, decision-making, customer interaction, productivity, risk management and long-term organisational competitiveness.

For many organisations, AI creates significant opportunities: process optimisation, improved forecasting, better use of data, enhanced customer services, automation of repetitive tasks and support for more informed strategic decisions. At the same time, AI adoption introduces important responsibilities. Poorly designed, poorly governed or insufficiently understood AI systems can create risks related to bias, data protection, transparency, security, accountability and regulatory compliance.

This course addresses that balance directly. It is designed for professionals who need to understand not only what AI is, but how it can be applied responsibly in real organisational contexts. Learners will explore the foundations of artificial intelligence and machine learning, practical tools, cloud-based AI services, sector-specific applications and the management of AI projects from business problem definition to deployment and monitoring.

### **Participants will leave this course equipped to:**

- Understand core and advanced concepts in artificial intelligence and machine learning
- Recognise how AI can be applied across different sectors and business functions
- Understand the role of cloud platforms in developing and scaling AI solutions
- Evaluate the organisational, ethical, security and compliance dimensions of AI adoption
- Plan and support AI projects in a structured, responsible and business-aligned manner

## Course Overview

|                                  |                                                                                                                       |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| <b>Course Title</b>              | Artificial Intelligence (AI)                                                                                          |
| <b>Total Duration</b>            | 15 Hours                                                                                                              |
| <b>Primary Delivery Format</b>   | eLearning course delivered through the digital learning platform                                                      |
| <b>Optional Delivery Formats</b> | Available on request as live trainer-led online delivery or in-house classroom training                               |
| <b>Target Audience</b>           | Professionals seeking to understand, apply and govern artificial intelligence in organisational and business contexts |
| <b>Prerequisites</b>             | No advanced programming experience required; basic digital literacy recommended                                       |
| <b>Language</b>                  | English                                                                                                               |

### Planning & Delivery Options

The standard version of this programme is structured as an eLearning course, allowing participants to progress through the agenda in a flexible and accessible format. This option is suitable for organisations that need scalable delivery, consistent learning materials and clear assessment through the digital platform.

At the client's request, the same course agenda can also be delivered with a live trainer, either online or in an in-house classroom format. These options are recommended when the organisation wants direct interaction with the trainer, applied discussions based on internal workflows or a more guided learning experience.

For organisational enrolment, adapted delivery or group implementation, please request a tailored quote.

## Learning Approach

The learning approach is built on four pillars:

### 01 Conceptual Clarity

Each module introduces key artificial intelligence concepts in a clear and structured way before moving into applied use cases. Learners build a solid understanding of AI, machine learning, deep learning, natural language processing and cloud-based AI before engaging with practical tools and implementation approaches.

### 02 Applied Learning

Case studies, scenario-based exercises and tool walkthroughs anchor abstract concepts in realistic professional contexts, building skills that transfer directly to the workplace.

### 03 Security & Governance Integration

Cybersecurity, data protection, compliance, explainability, interpretability and responsible AI principles are embedded throughout the course. Learners are encouraged to evaluate AI not only as a technical capability, but as a governed organisational system that requires accountability and oversight.

### 04 Progressive Assessment

Each module includes a knowledge check through the eLearning platform. A final comprehensive assessment consolidates learning across all modules.

## Detailed Course Agenda

### Module 01 Advanced Foundations of Artificial Intelligence

#### Learning Objectives

- Develop a structured understanding of artificial intelligence, machine learning and deep learning, including how these concepts relate to one another in practical organisational contexts.
- Understand the principles of neural networks, including convolutional neural networks and recurrent neural networks, and examine the types of problems for which these architectures are commonly used.
- Explore deep learning concepts, including autoencoders, generative adversarial networks and transfer learning, with attention to their practical relevance and limitations.
- Understand the foundations of natural language processing and the role of advanced architectures such as Transformers and BERT in language understanding, classification, summarisation and information extraction.
- Examine model optimisation techniques, including hyperparameter tuning, performance evaluation and approaches for improving model reliability.
- Understand the importance of explainability, interpretability and trust in AI models, particularly when AI is used to support business or operational decisions.

#### Tools & Methodology

eLearning modules, optional live trainer-led sessions.

**Assessment:** Knowledge test via the eLearning platform.

## Module 02 AI Applications Across Economic Sectors

### Learning Objectives

- Understand how artificial intelligence is being applied across key sectors, including manufacturing, healthcare, financial services, agriculture, transport, public services and other technology-driven environments.
- Analyse the use of AI in business functions such as human resources, financial management, risk management, candidate evaluation, customer service, operations and strategic planning.
- Explore relevant case studies that demonstrate how AI can support process optimisation, prediction, automation, personalisation and improved decision-making.
- Understand how enterprises can benefit from AI adoption in order to improve operations, increase efficiency and strengthen their competitive position.
- Identify common barriers to AI implementation, including limited data quality, lack of technical expertise, cost constraints, integration challenges, security concerns and organisational resistance.
- Examine practical strategies for overcoming implementation barriers and aligning AI initiatives with real business needs.
- Evaluate the ethical and organisational implications of applying AI in different sectors, with attention to transparency, fairness, accountability and human oversight.

### Tools & Methodology

eLearning modules, optional live trainer-led sessions, case studies.

**Assessment:** Knowledge test via the eLearning platform.

## Module 03 AI and Machine Learning Tools

### Learning Objectives

- Explore how machine learning and deep learning models are created, trained, validated and refined using modern development frameworks.
- Understand the role of Python as a practical language for AI development, data analysis, prototyping and experimentation.
- Examine the basic principles of data preparation, data transformation and dataset management in AI projects.
- Explore how TensorFlow and PyTorch support the development of more complex deep learning models and experimentation workflows.
- Analyse model evaluation techniques and understand how performance metrics should be interpreted in relation to the business problem being addressed.
- Recognise the importance of secure and responsible handling of data during AI development, especially when working with sensitive, regulated or business-critical information.

### Tools & Methodology

eLearning modules, optional live trainer-led sessions, case studies.

**Assessment:** Knowledge test via the eLearning platform.

## Module 04 Using Cloud Platforms for AI

### Learning Objectives

- Understand the advantages and limitations of using cloud platforms for artificial intelligence, including scalability, flexibility, cost management, security, availability and compliance.
- Explore AI services provided by major cloud platforms, including AWS AI Services, Google AI Platform and Azure AI.
- Understand how cloud infrastructure can support data storage, computing resources, model training, deployment and monitoring for AI solutions.

- Examine how enterprises can use cloud platforms to implement and scale AI solutions without building extensive internal infrastructure.
- Analyse security and compliance considerations in cloud-based AI environments, including access control, data residency, encryption, logging and vendor risk management.
- Understand the operational implications of deploying AI in cloud environments, including cost monitoring, service reliability, integration with existing systems and ongoing governance.

### **Tools & Methodology**

eLearning modules, optional live trainer-led sessions, case studies.

**Assessment:** Knowledge test via the eLearning platform.

## **Module 05 Managing and Implementing AI Projects**

### **Learning Objectives**

- Understand the main stages of an AI project lifecycle, from identifying the business problem to collecting and preparing data, developing and training models, testing, deployment and performance monitoring.
- Learn how to translate business needs into AI project objectives, success criteria and measurable outcomes.
- Understand the importance of data quality, data governance and appropriate dataset selection in the success of AI projects.
- Explore how multidisciplinary teams contribute to AI implementation, including data engineers, machine learning specialists, software developers, domain experts, cybersecurity specialists, compliance teams and business stakeholders.
- Learn how to coordinate AI projects in a structured way, ensuring alignment between technical development, business objectives, risk management and stakeholder expectations.

- Understand common implementation challenges, including model drift, poor data quality, lack of adoption, integration complexity, unclear accountability and insufficient governance.
- Explore practical strategies for managing AI risks and supporting responsible implementation throughout the project lifecycle.

### **Tools & Methodology**

eLearning modules, optional live trainer-led sessions, case studies.

**Assessment:** Knowledge test via the eLearning platform.

## **Module 06 Responsible AI, Ethics and Governance**

### **Learning Objectives**

- Understand why responsible AI is essential for organisations adopting artificial intelligence in operational, analytical or decision-support contexts.
- Explore the ethical dimensions of AI, including fairness, transparency, accountability, explainability, bias, human oversight and proportionality.
- Identify risks associated with AI systems, including discriminatory outcomes, privacy breaches, security vulnerabilities, unreliable model outputs and excessive reliance on automation.
- Understand the role of governance frameworks in ensuring that AI systems are designed, deployed and monitored responsibly.
- Examine the importance of documentation, auditability, accountability and traceability throughout the AI lifecycle.
- Explore the relationship between AI governance, cybersecurity, data protection and regulatory expectations in European digital environments.

### **Tools & Methodology**

eLearning modules, optional live trainer-led sessions, case studies.

**Assessment:** Knowledge test via the eLearning platform.

### Module 07 Course Closing & Consolidation

- Consolidate understanding across all previous modules through a structured review of core concepts, tools, frameworks and implementation principles.
- Revisit the most important elements of artificial intelligence, machine learning, deep learning, cloud-based AI, project management, governance and responsible AI adoption.
- Prepare for the final assessment by reviewing the key themes and applied knowledge covered throughout the programme.
- Reflect on how AI can be applied responsibly within the learner's own organisational or professional context.

#### Tools & Methodology

Final online assessment, optional trainer review session, individual feedback where applicable.

## Assessment & Certification

Assessment in this course is continuous, formative and cumulative. Rather than relying on a single high-stakes examination, the programme uses a layered approach that supports learning throughout and ensures that the final certification reflects a genuine command of the material.

| Assessment Type                  | Description                                                                                                                                                                                                             |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Module Knowledge Checks</b>   | Each content module is followed by a knowledge test delivered through the eLearning platform. These tests reinforce learning at the point of completion and allow learners to identify any gaps before progressing.     |
| <b>Final Assessment</b>          | A comprehensive online test covering all modules is completed at the end of the course. This assessment evaluates the learner's overall understanding and ability to apply key concepts across the programme.           |
| <b>Trainer Feedback</b>          | When trainer-led delivery is requested, live session interactions and final assessment performance can be reviewed by the course trainer, who provides structured feedback to support ongoing professional development. |
| <b>Certificate of Completion</b> | Participants who successfully complete the course and final assessment may receive a certificate of completion issued by INFOSEC CENTER, confirming participation and successful completion of the training programme.  |

## Closing Note

Artificial Intelligence is not only a technical discipline. It is a strategic capability that influences how organisations understand data, make decisions, manage risk, interact with customers and design future services. The organisations that benefit most from AI are those that approach it with clear objectives, responsible governance, strong data practices and realistic expectations.

This course has been designed with that understanding at its core. It aims to prepare learners not only to recognise and use AI technologies, but also to evaluate their implications, manage their risks and support their responsible adoption in professional environments.

By combining conceptual clarity, applied examples, technical awareness and governance considerations, the programme helps learners build a practical and responsible perspective on artificial intelligence. The knowledge developed here is relevant across industries and will remain valuable as AI technologies continue to evolve.

We hope this programme supports your development as a confident, capable and responsible professional in an increasingly AI-enabled world. The perspective you build here will help you contribute meaningfully to digital transformation while maintaining the judgement, accountability and ethical awareness that modern organisations require.

We wish you a productive and insightful learning experience.

**Primary format: eLearning course**

**Live trainer-led and in-house delivery available on request**

**Request a quote: [contact@edkore.com](mailto:contact@edkore.com)**