# Artificial Intelligence Essentials (AIE)

**Category:** AI, Data & Analytics | **Vendor:** EC-Council

**Duration:** 18.00 hours (3 days) **14.6 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

## Course Information

**Delivery Format:** Instructor Led - Online

## Who Should Attend

Business Professionals (Marketing, Finance, Operations), Project Managers, HR / L&D Professionals, IT Professionals (non-AI specialists), Students / Early Career Professionals

### Prerequisites & Entry Requirements

**General Prerequisites:**

No formal prerequisites, Designed as a foundational / entry-level course, Non-technical professionals or Beginners

# Detailed Course Outline

## Introduction to Artificial Intelligence

- Understand the Similarities, Differences, and Collaboration between Human and Artificial Intelligence
    - Human Intelligence
    - What is Artificial Intelligence?
    - AI vs Human Intelligence
    - AI and Human Intelligence: Partners, Not Competitors
    - Human-AI Collaboration: Skills and Mindsets for Success
    - What is NOT AI?
    - Limitations of Current AI
- Explain How Data, Algorithms, and Models form the Foundation of AI Systems
    - Fundamental Concepts of AI
    - Role of Data and Algorithms in AI
    - Model: The Outcome of Learning
    - How AI Works Differently from Traditional Software
    - AI vs Traditional Software: Key Capabilities
- Summarize Major Milestones and Developments in the Evolution of AI
    - Early AI History
    - Modern AI History
    - Explore Recent Advancements and Future Directions Shaping AI Technologies
        - Emerging Trends in AI
        - Technological Advancements Driving AI
        - The Road Ahead: Opportunities and Challenges
        - Module Summary

## Everyday AI Tools and Use cases

- Identify Common AI Technologies Used in Daily Life
    - Impact of AI in Daily Life
    - AI in Entertainment
    - AI as Personal Assistants
    - AI in Smart Homes

AI in Fitness
    - AI in Shopping and E-Commerce
    - AI in Customer Service
    - AI in Travel and Navigation
    - AI in Budgeting
- Recognize AI Tools in the Workplace and How they Improve Workflow and Decision-Making
    - AI: The Smart Work Companion
    - Optimize Workplace Productivity with AI
    - AI-Driven Collaboration in the Workplace
    - AI-Driven Decision-Making at Work
    - AI-Powered Financial Decision Support
    - Optimize Hiring and Job Search with AI
    - AI Tools in Workspace
- Explain How AI Improves Manufacturing and Industrial Processes
    - Smart Industry with AI
    - AI-Powered Predictive Maintenance of Machinery
    - Product Quality Inspection with AI
    - AI in Supply Chain Optimization
    - AI-Powered Cobots in Manufacturing
- Explain How AI Improves Transportation Safety, Efficiency, and Sustainability
    - Making Travel Smarter with AI
    - AI in Autonomous Vehicles
    - Smart Traffic Management with AI
    - Smart Logistics and Fleet Management
    - Safety and Collision Detection Systems
    - Disaster Management: Google AI for Wildfire Detection
    - Sustainability: John Deere’s AI for Precision Agriculture Renewable Energy Management using AI
- Identify How AI Personalizes Learning and Provides Feedback

AI in Education: Transforming the Future of Learning
    - AI-Driven Intelligent Tutoring Systems
    - AI-Driven Grading and Feedback Systems
    - AI-Driven Student Performance Analytics
    - AI-Driven Adaptive Learning Platforms
  - Identify How AI Improves Security by Detecting Threats, Protecting Data, and Ensuring Privacy
    - Smarter Security Starts with AI
    - AI in Cybersecurity
    - AI for Data Privacy & Identity Verification
    - Module Summary

### Building Blocks of AI

  - AI and its Disciplines

- Understand the Role of Data for Effective AI Systems
  - Data
  - Importance of Data Quality for Effective AI
  - AI Data Categories and Origins
  - Types of AI Data
  - AI Data Flow Basics
  - Structured vs. Unstructured Datasets
  - Labeled vs. Unlabeled Datasets
  - Creating Datasets for AI Models
  - Ways to Sample Data

- Identify the Different AI Models and Explain How They are Developed and Trained
  - Key Features of AI Models
  - Types of AI Model
  - AI Model Development Process
  - How AI Models are Trained
  - Challenges in Training AI Models
  - Testing AI Models

    - Improving AI Models
    - Evaluating Model Performance

- Understand Machine Learning and Neural Networks
    - What is Machine Learning?
    - Machine Learning Algorithms
    - How Machine Learning Improves Decision-Making
    - Limitations of Machine Learning
    - Neural Networks
    - Layers, Nodes, and Weights in Neural Networks
    - Deep Learning (DL)
    - How DL Overcomes Limitations of ML
    - Working of DL
    - DL Algorithms
    - Computer Vision

- Understand Natural Language Processing (NLP) and its Role in AI
    - Natural Language Processing (NLP)
    - Why NLP is Important in AI
    - How NLP Processes Human Language
    - Processing Text for NLP Tasks
    - Key NLP Tasks
    - Sentiment Analysis in NLP
    - Text Summarization in NLP
    - Language Translation in NLP
    - Challenges in NLP

- Explain Generative AI (GenAI) and Large Language Models (LLMs)
    - What is Generative AI?
    - Traditional AI vs Generative AI
    - Foundation Models of Generative AI
    - Popular GenAI Tools
    - Large Language Models (LLMs)

Small vs. Large Language Models
    - Key Terms for GenAI and Language Models
- Understand Advanced AI Systems and Technologies
    - Robotics
    - Multimodal AI
    - AI Agents
    - Agentic AI
    - XAI (Explainable Artificial Intelligence)
    - Expert Systems
- Select the Appropriate Tools Based on AI Project Requirements
    - Select the Appropriate Tools for AI Projects
    - Understand Project Type
    - Consider Tool Characteristics
    - Recommended AI Tools by Use Case
    - Module Summary

## Prompt Crafting for Effective AI Interactions

- Understand the Basics of Prompt Engineering
  - What is a Prompt?
  - How AI Responds to Prompts
  - What is Prompt Engineering?
  - Why is Prompt Engineering Important?
  - How does Prompt Engineering Work?
  - How Different AI Models Interpret Prompts
  - Comparison of AI Platform Responses
- Learn How to Craft Effective Prompts
  - Key Principles of Crafting Effective Prompts
  - Ask the Right Question
  - Make Prompts Clear
  - Make Prompts Specific
  - Make Prompts Relevant
  - Test and Refine Prompts
  - Handle Unsatisfactory Responses
  - Rephrasing Prompt
- Learn Prompt Engineering Techniques
  - Prompting Techniques for Written Projects
  - Prompting Techniques for Image or Video Project
  - Prompting Techniques for Multimodal AI
  - Chain of Thought (CoT) Prompting Techniques
  - Iterative Prompting Techniques
  - Managing Long Conversations
  - Module Summary

## AI Ethics and Responsible AI

  - AI Ethics and Responsible AI
- Identify Key Ethical, Societal, and Security Concerns in AI Systems
  - AI Concerns
  - AI Ethical Concern: Bias and Discrimination

AI Ethical Concern: Lack of Transparency
    - AI Ethical Concern: Accountability and Responsibility
    - AI Ethical Concern: Intellectual Property and Copyright Violations
    - Ethical Concerns Introduced by GenAI
    - Privacy and Security Concern: Privacy and Surveillance
    - Real-world Privacy and Data Protection Implications
    - Privacy and Security Concern: Cyber Attacks
    - Societal Concern: Job Displacement
    - Societal Concern: Mental Health Impact
    - Societal Concern: Hallucinations
    - Societal Concern: Misinformation and Deepfakes
    - Long-Term Concerns: Autonomous Weapons
    - Long-Term Concerns: Emergence of AGI

- Explain the Principles and Importance of Using AI Ethically and Fairly
    - What is Responsible AI?
    - Why Responsible AI Use Matters?
    - Using AI Responsibly in Daily Life

- Apply Responsible Practices, Governance, and Global Standards in AI Usage.
    - Maintain Accountability in AI Usage
    - Avoid Over-Reliance on AI
    - Configure Privacy Settings in AI Tools
    - Setting Up Privacy Controls in ChatGPT
    - Exercise Caution Sharing Personal Data with AI Tools
    - Managing AI App Permissions Effectively
    - Stay Updated on AI Policy Changes and News
    - Regularly Update and Audit AI Tools
    - Use AI Applications Ethically
    - Ethical AI Design: Key Considerations
    - Considerations for Navigating GenAI Ethical Challenges
    - Safeguard Against AI Security Risks

Regulation and Governance in AI

- Responsible AI Global Initiatives
- Legal Foundation of Responsible AI
- AI Regulations in Action: GDPR, CCPA, and DPDP Act
- Building a Responsible AI Future
- Module Summary

# Frequently Asked Questions

### Q: What delivery options are available for Artificial Intelligence Essentials (AIE)?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

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### Q: How many CPD hours does this course provide?

The 3-day Artificial Intelligence Essentials (AIE) course provides up to 14.6 CPD hours of structured learning. CPD certificates can be provided upon request.

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### Q: What is the duration of the Artificial Intelligence Essentials (AIE) training?

The training takes place over 3 day(s), with each day lasting approximately 18.00 hours including breaks for lunch and refreshments.

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### Q: Do you provide corporate training for Artificial Intelligence Essentials (AIE)?

Yes, we provide corporate training, dedicated training, and closed classes for Artificial Intelligence Essentials (AIE). Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

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## Q: Why choose Nexus Human for Artificial Intelligence Essentials (AIE)?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

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## Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Artificial Intelligence Essentials (AIE) training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.


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