

## Artificial Intelligence (AI) Foundation + examen

Cursusduur: 3 Dagen    Cursuscode: AIF    Trainingsmethode: Virtual Learning

### Beschrijving:

#### Neem de volgende stap in het ontwikkelen van uw kennis en begrip van Artificial Intelligence met deze training.

Leer de algemene principes van AI, de potentiële implicaties en mogelijkheden ervan en hoe je AI-producten en -diensten vanuit meerdere invalshoeken kunt beoordelen. Voorbeelden van AI zijn de laatste tijd veel in het nieuws geweest, het begon met chatbots zoals Google Assistant en nu ChatGPT. Natuurlijk is AI veel meer dan alleen chatbots, toch gaan we hier ook op in om de do's en don't hiervan te leren. Deze 3-daagse cursus behandelt de potentiële voordelen; soorten Artificial Intelligence (AI); het basisproces van Machine Learning (ML); de uitdagingen en risico's van een AI-project en de toekomst van AI en People at Work.

#### Take the next step in developing your knowledge and understanding of Artificial Intelligence with this training.

Learn the general principles of AI, its potential implications and capabilities and how to assess AI products and services from multiple angles. Examples of AI have been in the news a lot lately, it started with chatbots like Google Assistant and now ChatGPT. Of course, AI is much more than just chatbots, yet we will also discuss this to learn the do's and don't of this. This 3-day course covers the potential benefits; types of Artificial Intelligence (AI); the basic process of Machine Learning (ML); the challenges and risks associated with an AI project, and the future of AI and People at Work.

Virtueel en Klassikaal™

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### Doelgroep:

Het Artificial Intelligence Foundation certificaat is gericht op personen met een interesse in (of behoefte aan) AI in een organisatie, met name degenen die werkzaam zijn op gebieden als wetenschap, techniek, kennistechnologie, financiën of IT-diensten.

De volgende jobrollen komen veelal in aanmerking; Engineers Scientists Professional research managers Chief technical officers Chief information officers Organizational change practitioners and managers Business change practitioners and managers Service architects and managers Program and planning managers Service provider portfolio strategists / leads Process architects and managers Business strategists and consultants Web page developers

### Doelstelling:

- Beschrijf hoe Artificial Intelligence (AI) deel uitmaakt van 'Universal Design' en 'De Vierde Industriële Revolutie'.
- Beschrijf hoe we leren van Data - Functionaliteit, Software en Hardware
- Toon begrip van de Artificial Intelligence (AI) Intelligente Agent Beschrijving
- Laat zien dat Artificial Intelligence (AI) (in het bijzonder Machine Learning (ML)) mensen en machines zal aanzetten om samen te werken.
- De voordelen van Artificial Intelligence (AI) uitleggen
- Beschrijf een 'Learning from Experience' Agile Approach van projecten

### Vereiste kennis en vaardigheden:

Er is geen specifieke voorkennis nodig.

### Examens en certificering

Successful completion of the EXIN BCS Artificial Intelligence Foundation exam.

#### Examination Details

- Examination type: Multiple-choice Questions
- Number of questions: 40
- Pass mark: 65%
- Open book/notes: No

- Electronic equipment/aides permitted: No
  - Exam duration: 60 minutes
  - ECTS Credits: 2
  - Languages: English, Portuguese, Chinese, Dutch, Japanese
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## Cursusinhoud:

- Ethische en duurzame menselijke en Artificial Intelligence (AI)
- Artificial Intelligence (AI) en Robotica
- De voordelen van Artificial Intelligence (AI) toepassen - Uitdagingen en risico's
- Starten van Artificial Intelligence (AI): hoe bouw je een Machine Learning (ML) Toolbox - Theorie en Praktijk
- Het beheer, de rollen en verantwoordelijkheden van mensen en machines

### 1 Ethical and Sustainable Human and Artificial Intelligence (AI)

#### 1.1 Recall the General Definition of Human and Artificial Intelligence (AI)

The candidate can...

1.1.1 describe the concept of intelligent agents.

1.1.2 describe a modern approach to Human logical levels of thinking using Robert Dilt's Model.

#### 1.2 Describe what are Ethics and Trustworthy Artificial Intelligence (AI), in Particular:

The candidate can...

1.2.1 recall the general definition of Ethics.

1.2.2 recall that a Human Centric Ethical Purpose respects fundamental rights, principles and values.

1.2.3 recall that Ethical Purpose AI is delivered using Trustworthy Artificial Intelligence (AI) that is technically robust.

1.2.4 recall that the Human Centric Ethical Purpose Trustworthy Artificial Intelligence (AI) is continually assessed and monitored.

1.3 Describe the Three Fundamental Areas of Sustainability and the United Nation's Seventeen Sustainability Goals

2.1.2 describe agents in terms of performance measure, environment, actuators and sensors.

2.1.3 describe four types of agent: reflex, model-based reflex, goal-based and utility-based.

2.1.4 identify the relationship of Artificial Intelligence (AI) agents with Machine Learning (ML).

2.2 Describe what a Robot is and:

The candidate can...

2.2.1 describe robotic paradigms

2.3 Describe what an Intelligent Robot is and:

The candidate can...

2.3.1 relate intelligent robotics to intelligent agents.

### 3 Applying the Benefits of Artificial Intelligence (AI) – Challenges and Risks

3.1 Describe how Sustainability Relates to Human-Centric Ethical Artificial Intelligence (AI) and how our Values will Drive our use of Artificial Intelligence (AI) and will Change Humans, Society and Organizations

3.2 Explain the Benefits of Artificial Intelligence (AI) by:

The candidate can...

3.2.1 list advantages of machine and human and machine systems.

3.3 Describe the Challenges of Artificial Intelligence (AI), and:

The candidate can...

3.4.2 describe a typical Artificial Intelligence (AI) project team in particular.

3.4.3 describe a domain expert.

3.4.4 describe what is 'fit-of-purpose'.

3.4.5 describe the difference between waterfall and agile projects.

### 3.5 List Opportunities for Artificial Intelligence (AI)

3.6 Identify a Typical Funding Source for Artificial Intelligence (AI) Projects and Relate to the NASA Technology Readiness Levels (TRLs)

### 4 Starting Artificial Intelligence (AI): how to Build a Machine Learning (ML) Toolbox – Theory and Practice

4.1 Describe how we Learn from Data – Functionality, Software and Hardware

The candidate can...

4.1.1 list common open source machine learning functionality, software and hardware.

4.1.2 describe introductory theory of Machine Learning (ML).

4.1.3 describe typical tasks in the preparation of data.

4.1.4 describe typical types of Machine Learning (ML) Algorithms.

4.1.5 describe the typical methods of visualizing data.

4.2 Recall which Typical, Narrow Artificial Intelligence (AI) Capability is Useful in Machine Learning (ML) and Artificial Intelligence (AI) Agents' Functionality

### 5 The Management, Roles and

<p>1.4 Describe how Artificial Intelligence (AI) is Part of 'Universal Design,' and 'The Fourth Industrial Revolution'</p>	<p>3.3.1 give examples of general ethical challenges Artificial Intelligence (AI) raises.</p>	<p>Responsibilities of Humans and Machines</p>
<p>1.5 Understand that Machine Learning (ML) is a Significant Contribution to the Growth of Artificial Intelligence (AI)</p>	<p>3.3.2 give general examples of the limitations of Artificial Intelligence (AI) systems compared to human systems.</p>	<p>5.1 Demonstrate an Understanding that Artificial Intelligence (AI) (in Particular, Machine Learning (ML)) will Drive Humans and Machines to Work Together</p>
<p>The candidate can...</p>	<p>3.4 Demonstrate Understanding of the Risks of Artificial Intelligence (AI) Projects, and:</p>	<p>5.2 List Future Directions of Humans and Machines Working Together</p>
<p>1.5.1 describe 'learning from experience' and how it relates to Machine Learning (ML) (Tom Mitchell's explicit definition).</p>	<p>The candidate can...</p>	<p>5.3 Describe a 'Learning from Experience' Agile Approach to Projects</p>
<p>2 Artificial Intelligence (AI) and Robotics</p> <p>2.1 Demonstrate Understanding of the Artificial Intelligence (AI) Intelligent Agent Description, and:</p>	<p>3.4.1 give at least one a general example of the risks of Artificial Intelligence (AI).</p>	<p>The candidate can...</p>
<p>The candidate can...</p>		<p>5.3.1 describe the type of team members needed for an Agile project.</p>
<p>2.1.1 list the four rational agent dependencies.</p>		

### Extra informatie:

Wilt u enkel kennis over de volgende basisonderwerpen: Wat is AI en welke invloed heeft het op het bedrijf? Belangrijkste elementen van AIAI en mensen, hoe werken ze samen in de toekomst?  
Kies dan de ééndaagse AIE, Artificial Intelligence (AI) Essentials + examen

### Nadere informatie:

Neem voor nadere informatie of boekingen contact op met onze Customer Service Desk 030 - 60 89 444

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