This professional certification is not regulated by the following United Kingdom Regulators – Ofqual, Qualification in Wales CCEA or SQA.
Document Change History

Any changes made to the syllabus shall be clearly documented with a change history log. This shall include the latest version number, date of the amendment and changes made. The purpose is to identify quickly what changes have been made.

<table>
<thead>
<tr>
<th>Version Number</th>
<th>Changes Made</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1.0</td>
<td>Document Creation</td>
</tr>
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</table>
Introduction

The BCS Foundation Award in Understanding the Role of Ethics in the Responsible Use of AI is designed for anyone wishing to gain an understanding of how an ethical culture can support and ensure responsible use of AI.

AI is increasing in its use. Now a presence within our workplaces and our homes, there is a greater need now more than ever to understand the moral implications associated with AI and how it is impacting on society. This award considers the responsibility of organisations and society towards ensuring AI is implemented for the good of others. It considers the potential harm AI may pose, and the safeguards that can be implemented to ensure it is used safely, ethically and for the good of society. Candidates will be encouraged to explore the benefits associated with AI and the potential value it can add towards the continued evolution of humankind if managed well.

Qualification Suitability and Overview

There are no specific entry requirements for this award. However, some professional experience in a business or IT environment may be advantageous.

The BCS Foundation Award in Understanding the Role of Ethics in the Responsible Use of AI has been created for IT professionals of all levels, particularly those considering AI as a solution. It aims to provide them with a basic understanding of the ethical challenges posed upon society, whilst also recognising the business benefits.

This award has been created alongside a selection of other awards in the AI space which offer candidates a clear pathway of progression into other disciplines of IT along with a broader knowledge of AI in the workplace. This makes it ideally suited for those looking for a change in career, an upskilling workforce, sustainable employers and individuals with a background in: science, engineering, knowledge engineering, finance, education or IT services.

This list is not exhaustive and many other roles may benefit.

This award represents 4 credits that can count towards the credits required for a BCS Foundation Certificate or Diploma in a relevant discipline.

Candidates can study for this award by attending a training course provided by a BCS accredited Training Provider or through self-study.

<table>
<thead>
<tr>
<th>Total Qualification Time</th>
<th>Guided Learning Hours</th>
<th>Independent Learning Hours</th>
<th>Assessment Qualification Time</th>
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</thead>
<tbody>
<tr>
<td>40 hours</td>
<td>16 hours</td>
<td>23.5 hours</td>
<td>0.5 hours</td>
</tr>
<tr>
<td>4 credits</td>
<td></td>
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</table>

*Examples of Independent Learning include reading of articles or books, watching videos, attendance of other types of training or work shadowing.

Trainer Criteria

It is recommended that to effectively deliver this award, trainers should possess:

- BCS Foundation Certificate in Artificial Intelligence or a similar qualification.
- A minimum of 2 years’ training experience or a recognised qualification training qualification.
SFIA Levels

This award provides candidates with the level of knowledge highlighted within the table, enabling candidates to develop the skills to operate successfully at the levels of responsibility indicated.

<table>
<thead>
<tr>
<th>Level</th>
<th>Levels of Knowledge</th>
<th>Levels of Skill and Responsibility (SFIA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>K7</td>
<td>Evaluate</td>
<td>Set strategy, inspire and mobilise</td>
</tr>
<tr>
<td>K6</td>
<td>Synthesise</td>
<td>Initiate and influence</td>
</tr>
<tr>
<td>K5</td>
<td>Analyse</td>
<td>Ensure and advise</td>
</tr>
<tr>
<td>K4</td>
<td>Apply</td>
<td>Enable</td>
</tr>
<tr>
<td>K3</td>
<td>Understand</td>
<td>Apply</td>
</tr>
<tr>
<td>K2</td>
<td>Remember</td>
<td>Assist</td>
</tr>
<tr>
<td>K1</td>
<td></td>
<td>Follow</td>
</tr>
</tbody>
</table>

SFIA Plus

This syllabus has been linked to the SFIA knowledge skills and behaviours required of an individual at level 3;

KSC04

Applying standards, practices, codes, and assessment and certification programmes relevant to the IT industry and the specific organisation or business domain.

Further detail around the SFIA Levels can be found at www.bcs.org/levels.

Learning Outcomes

Upon completion of the award, candidates will be able to demonstrate:

1. An understanding of the impact and level of responsibility of AI in business
2. An understanding of the need to scale up the impact and responsibility of AI to society
3. An understanding of potential harm and safeguards
4. An understanding of the role of humans in an AI world

Syllabus

1. The impact and level of responsibility of AI in business (20%) (K1, K2)

Candidates will be able to:

Identify the levels of responsibility AI has and explain the impact on the business.

Indicative content

a. High stake and low stake decision making
b. Risk
c. Level of sign off by AI and humans
d. Decision making
e. Changes
f. Staff
g. Process

Guidance

Aim to explore the balance between human and AI responsibilities within an organisation, for example, are tasks or decisions previously undertaken by humans now completed by an AI solution? Consider the level at (or sectors in) which it becomes dangerous or problematic to replace human input, and the impact of this on human workforce.

Candidates will be able to:

Explain the difficulty with establishing ownership of AI and where the responsibility lies.

Indicative content

a. Owner of the business
b. The user
c. The person who created the AI
d. Contract law
e. Intellectual property

Guidance

This future of this is a somewhat grey area, due to current laws needing a human to have ownership. AI is not a human and therefore ownership is more difficult to understand. This is particularly difficult as decisions made by automated systems can potentially be a risk to life.
Candidates will be able to:

1. Explain the need for a business to define appropriate use of AI.

Guidance

Consider an organisation which did not define appropriate use of AI, and the potential risks (misuse, unethical practises etc). Explore the need to clearly define the use of AI and the boundaries separating human and AI tasks, as well as guidance on how humans and AI can work together.

Indicative content

a. Sustainability
b. Ethical behaviour
c. Risk management
d. Culture

d. Consideration in products

Candidates will be able to:

1.4 Determine the need for protecting wider society.

Guidance

Explore the need for an organisation to take responsibility for its use of AI, and the impact this has on its employees, customers, and society. Following on from the risks mentioned previously (misuse etc), consider how to protect society from such risks, as well as ensuring AI is used in a manner than drives EDI.

Indicative content

a. Equality
b. Diversity
c. Inclusion
d. Vulnerable persons
e. Consideration in products

Candidates will be able to:

1.5 Describe the typical roles in implementing and using AI.

Guidance

Consider the duties and responsibilities of different AI related roles within an organisation, and how they impact one another. For example, business change colleagues may approve an AI project and work with the elected project manager to determine objectives, which the AI committee will then oversee to ensure these are carried out in an ethical and safe manner.

Indicative content

a. Project Manager
b. AI Committee
c. Information security
d. AI Expert
e. Business change
f. Data Architect
2. Scaling up the impact and responsibility of AI to society (20%) (K1, K2)

Candidates will be able to:

2.1 Explain the importance of respecting the concerns of AI in society.

Indicative content
- Unemployment
- Wellbeing, e.g. not competing against machines
- Exclusion
- Super AI
- Shared consciousness (see John Searle - Consciousness and Language)
- Can we define consciousness? (see Prof David Charmers – The Conscious Mind)

Guidance
Candidates should be encouraged to consider the concerns around AI – while considering the current reality of it. Explore the balance required between respecting society’s concerns (around jobs, discrimination, AI consciousness) while still progressing in the development of AI.

Candidates will be able to:

2.2 Describe the importance of sustainability and how this relates to AI.

Indicative content
- Environmental
- Economic
- Social
- Continuing into the future
- UN Sustainability goals and targets

Guidance
Define sustainability in an organisation (increasing long term value across all areas of the business, including/considering economic, social, and environmental factors). Consider how AI can contribute to sustainability (including the UN sustainability goals, e.g. quality education, gender equality), for example, can we use AI to improve access to education?

Candidates will be able to:

2.3 Identify the applicable standards and legislation that affect the use and build of AI.

Indicative content
- EU guidelines on ethics
- Data guidelines - Data Protection/GDPR
- CDEI
- Alan Turing Institute
- ICO

Guidance
The aim is for candidates to understand the key features of the legal, ethical, and organisational requirements around AI. Although knowledge of the finer detail of the legislation isn’t required, candidates are expected to be aware of the existence and key points of the abovementioned legislation.
3. Potential harm and safeguards (40%) (K1, K2)

Candidates will be able to:

3.1 Identify the areas of concern with AI development.

Indicative content

- Bias
- Accountability
- Privacy
- Poor quality
- Rogue AI
  - Auditability / Transparency
  - Ambiguity
  - Lack of talent
  - Lack of informed decision makers

Guidance

Deepening the discussing on societal concerns, consider a range of concerns regarding AI development, and the specifics of what they mean. For example – what are the specific privacy concerns to consider – AI “listening”, personal data being exploited etc.

Candidates will be able to:

3.3 Describe key aspects of a visible ethical AI Culture.

Indicative content

- Building culture from the top down and bottom up
- Ethical principles
- Whistle blowing
- Accountability
- Professional competence

Guidance

Explore the importance of ethics being a clearly visible part of an organisation’s approach to everyday activities and the impact this has on employees, customers and stakeholders alike.

Candidates will be able to:

3.2 Explain how an ethics first culture can reduce concerns in these areas.

Indicative content

- Alan Turing Institute
- SUM values
- FAST track principles
- Ethical by design

Guidance

Continuing from the above discussion, explore some of the ways of working that help alleviate these concerns. For example, by applying the FAST principles (fairness, accountability, sustainability, transparency).

Candidates will be able to:

3.4 Explain the role corporate governance has in supporting responsible AI.

Indicative content

- Collective decision making
- AI ethics committee

Guidance

Introduce the role of corporate governance and consider what that might include, that has an impact directly on AI. For example, clearly defined roles, tools in place for ongoing monitoring and a support structure should all help to ensure any solution is developed ethically and in line with the project objectives.
4. The role of humans in an AI world
(20%) (K2)

Candidates will be able to:

4.1 Describe the level of responsibility of humans as we move towards a more automated world.

Indicative content
- Government frameworks
- Legal
- Project Managers
- Quality assurance
- Testers

Guidance
Explore the evolving roles of humans and policy in relation to AI, and how this has changed and continues to change over time. Link back to previous discussions of societal concerns and the need for effective governance and clear responsibilities around AI in an organisation.

Candidates will be able to:

4.2 Recognise how AI allows the human to elevate their position.

Indicative content
- AI takes the heavy lifting to allow humans to move into high value work
- Taking stress away from the human to focus on other tasks

Guidance
Encourage candidates to reflect on tasks currently performed by AI, and the positive impact this had had on humans. In manufacturing, for example, when many repetitive, manual tasks e.g. production lines are now completed using AI technology. The benefits of freeing humans of such tasks allows for development in other areas – training, learning, devoting time to other areas of the business.

Candidates will be able to:

4.3 Identify the strengths of the human in an AI world.

Indicative content
- Sociability
- Healthier
- Creativity
- Leadership
- Enhances freewill
- Human + machine

Guidance
The aim here is to reinforce the message that although AI technology is evolving, it is simply not currently capable of performing at a human level. Consider emotion, creativity, empathy, socialising and forming relationships – areas in which humans are simply superior to AI.
Examination Format

This award is assessed through completion of an invigilated online exam which candidates will only be able to access at the date and time they are registered to attend.

<table>
<thead>
<tr>
<th>Type</th>
<th>16 Multiple Choice questions, 2 Scenario Based Question</th>
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<tbody>
<tr>
<td>Duration</td>
<td>30 minutes</td>
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<tr>
<td>Supervised</td>
<td>Yes</td>
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<tr>
<td>Open Book</td>
<td>No (no materials can be taken into the examination room)</td>
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<tr>
<td>Passmark</td>
<td>13/20 (65%)</td>
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<td>Delivery</td>
<td>Digital format only.</td>
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</table>

Adjustments and/or additional time can be requested in line with the BCS reasonable adjustments policy for candidates with a disability, or other special considerations including English as a second language.

Question Weighting

Each major subject heading in this syllabus is assigned a percentage weighting. The purpose of this is:

1. Guidance on the proportion of content allocated to each topic area of an accredited course.
2. Guidance on the proportion of questions in the exam.

### Syllabus Area

1. The impact and level of responsibility of AI in business
2. Scaling up the impact and responsibility of AI to society
3. Potential harm and safeguards
4. The role of humans in an AI world

### Question type

<table>
<thead>
<tr>
<th>Syllabus Area</th>
<th>Question type</th>
<th>Weighting</th>
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<tbody>
<tr>
<td>1</td>
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<tr>
<td>2</td>
<td>Multiple Choice</td>
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<tr>
<td>3</td>
<td>Scenario Based</td>
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<tr>
<td>4</td>
<td>Multiple Choice</td>
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