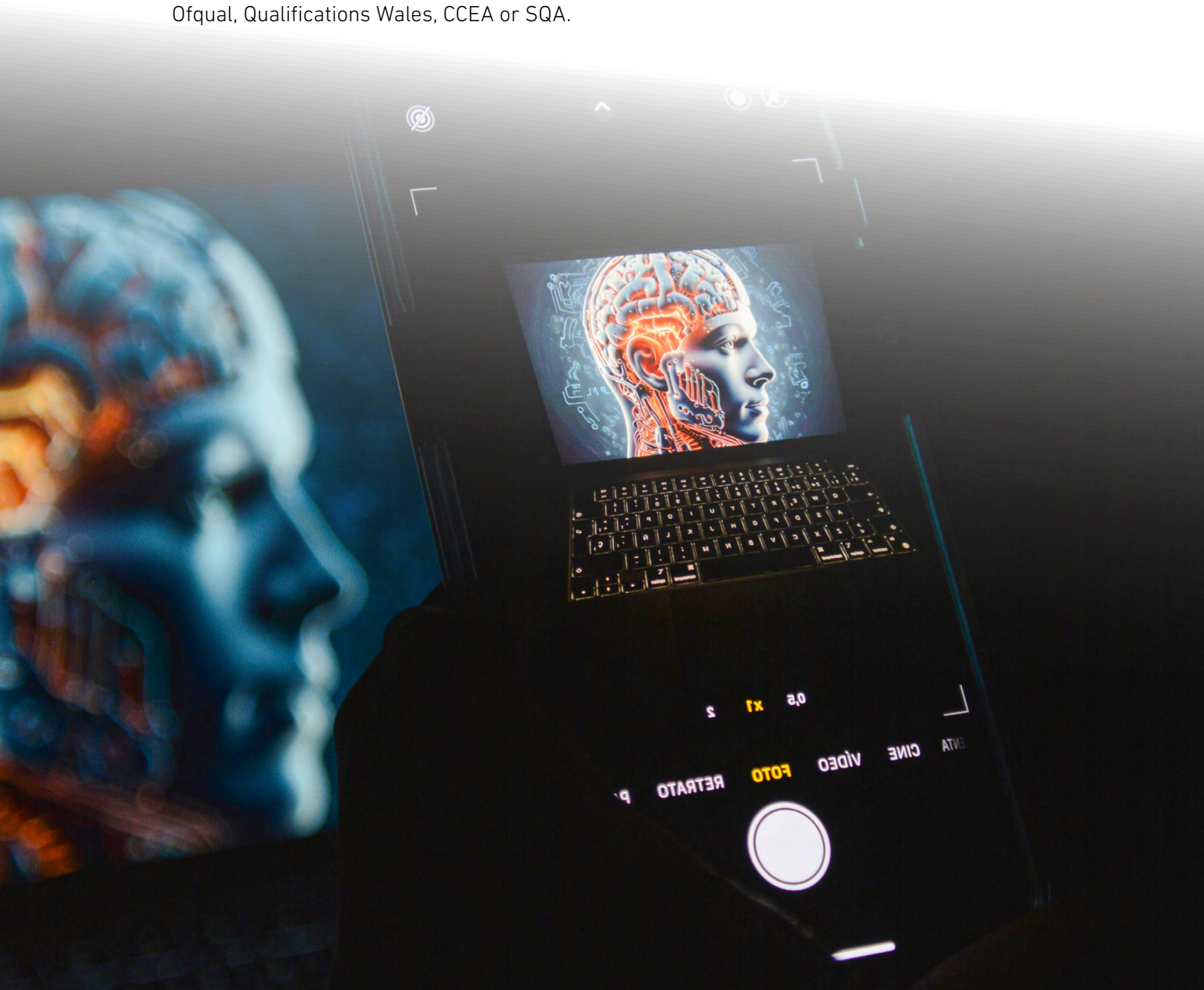# ARTIFICIAL INTELLIGENCE

BCS FOUNDATION CERTIFICATE

This professional certificate is not regulated by the following United Kingdom Regulators - Ofqual, Qualifications Wales, CCEA or SQA.

CONTENTS

INTRODUCTION AND OVERVIEW

INTRODUCTION

Artificial Intelligence (AI) has recently surged in popularity, becoming part of everyday thinking, transforming industries, and reshaping the future of technology. It revolutionises how systems learn from experience and mimic human intelligence.

The BCS Foundation Certificate in Artificial Intelligence equips candidates with knowledge of key AI techniques, their use in the real world and their impact on our lives.

This syllabus explores the historical journey of AI, the advantages and challenges of ethical and sustainable AI, the key enablers of AI including data and the future interplay between AI and human roles in the workplace.

Building on the foundational concepts introduced in the BCS Essentials Certificate in AI, this certification offers a comprehensive understanding crucial for navigating the rapidly evolving AI landscape.

LEARNING OUTCOMES

- The meaning of AI including its history and key principles.
- The legal, ethical and regulatory considerations when using AI.
- How humans can use AI to support business activities.
- How to identify opportunities for AI and implement them.
- The impact of AI on the future of society and business.
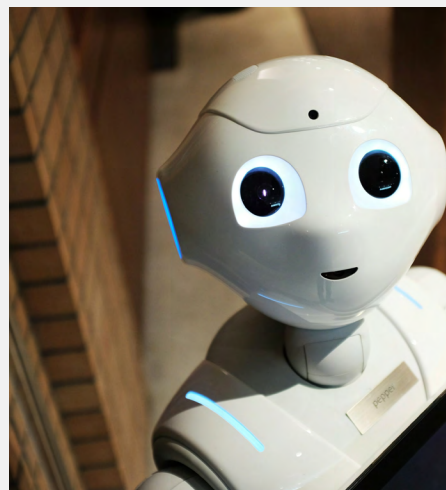
QUALIFICATION SUITABILITY AND OVERVIEW

The BCS Foundation Certificate in Artificial intelligence is suitable for individuals with an interest in exploring the functions and abilities of AI, and how these can be used in an organisation.

Roles with a particular interest may be: developers, project managers, product managers, chief information officers, chief finance officers, change practitioners, business consultants and leaders of people.

There are no specific entry requirements for this exam, although prior achievement of the BCS Essentials Certificate in Artificial Intelligence or a BCS Award from the Artificial Intelligence Pathway would be advantageous.

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

TOTAL QUALIFICATION TIME	GUIDED LEARNING HOURS	INDEPENDENT LEARNING	ASSESSMENT TIME
30 hours	18 hours	11 hours	1 hour

TRAINER CRITERIA

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

- Hold the BCS Foundation Certificate in Artificial Intelligence.
- Have 3 years experience of work or study in a related subject.
- Have teaching or training experience.

SFIA LEVELS

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

LEVEL	LEVELS OF KNOWLEDGE	LEVELS OF SKILLS AND RESPONSIBILITY (SFIA)
K7		Set strategy, inspire and mobilise
K6	Evaluate	Initiate and influence
K5	Synthesise	Ensure and advise
K4	Analyse	Enable
K3	Apply	**Apply**
K2	**Understand**	**Assist**
K1	**Remember**	**Follow**

SFIA*PLUS*

This syllabus has been linked to the SFIA knowledge, skills and work activities required at level 2 and 3 for an individual working in the following subject areas.

KSCA8

Knowledge and understanding of the development of intelligent agents, able to mimic cognitive functions, react to stimuli, and improve automatically through experience and the use of data.

KSD21

Methods and techniques for the assessment and management of business risk including safety-related risk.

DENG2WA0928

Adheres to information handling procedures and follows relevant standards, policies and legislation in handling data.

KSCA5

The ability to harvest, clean, curate, manage, process and manipulate data in a variety of formats.

BINT2WA0937

Assists in the application of appropriate safeguards to the handling of data and any analysis results.

Click HERE for further information regarding the SFIA Levels.

SYLLABUS

SYLLABUS

1. AN INTRODUCTION TO AI AND HISTORICAL DEVELOPMENT
15% K2

1.1 Identify the key definitions of key artificial intelligence terms.

Indicative content

a. Human intelligence - "The mental quality that consists of the abilities to learn from experience, adapt to new situations, understand and handle abstract concepts, and use knowledge to manipulate one's environment."
b. Artificial intelligence - "Intelligence demonstrated by machines, in contrast to the natural intelligence displayed by humans and other animals."
c. Machine learning - "The study of computer algorithms that allow computer programs to automatically improve through experience"
d. Scientific method - "An empirical method for acquiring knowledge that has characterised the development of science."

Guidance

To build their understanding of AI, it is essential for candidates to be able to know the definitions of the key artificial intelligence terms listed.

1.2 Describe key milestones in the development of artificial intelligence.

Indicative content

a. Asilomar principles.
b. Dartmouth conference of 1956.
c. AI winters.
d. Big data and the internet of things (IoT).
e. Large language models (LLMs).

Guidance

Candidates will be able to describe the events that took place to create these key milestones in the evolution of AI.

Asilomar principles are a set of guidelines for responsible AI development. The Dartmouth conference which took place in 1956, is considered to be the starting point of AI as a field of practice. Candidates should understand the concept of an AI winter, which began in the 1980s through to the rise of big data and the development of generative AI.

Big data refers to the access to enormous amounts of data from a wide variety of sources, including social media, sensors, and other connected devices. Candidates should understand the widespread use of large language models in 2022 , which made AI a matter of public interest like never before.

1.3   Describe different types of AI.

Indicative content

a.   Narrow/weak AI.

b.   General/strong AI.

Guidance
Candidates will be able to describe the differences between narrow AI (Weak AI) and general AI (Strong AI).

They will be able to provide real-world examples to illustrate each type and explain their strengths and weaknesses for example; spam filtering, image recognition in medical diagnostics, generative AI.

Narrow AI (ANI) also known as weak AI, is task-specific and operates within well-defined domains. Examples include:

-Image recognition: Identifying objects or patterns in images.

-Speech recognition: Converting spoken language into text.

-Language translation: Translating text from one language to another.

-Virtual assistants like Siri or Alexa.

General AI (AGI) also known as strong AI aims to replicate human intelligence. It is the hypothetical intelligence of a machine that has the capacity to understand or learn any intellectual task that a human being can understand or learn.

1.4   Explain the impact of AI on society.

Indicative content

a.   Ethical principles.
b.   Social impact .
c.   Economic impact.
d.   Environmental impact.
e.   UN 17 Sustainable Development Goals (SDGs).
f.   EU AI Act (2024).

Guidance

Candidates should understand different sources of basic principles which guard AI development and use, such as;

- Floridi & Cowls' principles of beneficence, non-maleficence, autonomy, justice, and explicability.

- AI UK principles of safety, security and robustness, transparency and explainability, fairness, accountability and governance, and contestability and redress.

Candidates should understand these guiding principles and be able to explain their impact in the ethical development and use of AI.

The world of AI is constantly changing, and the social, economic, and environmental impact is of growing concern.

Candidates will be able to outline some key aspects of the impact e.g. energy consumption (the AI industry, particularly generative AI systems, consumes vast amounts of energy), water usage (generative AI systems necessitate substantial water resources for cooling their processors and generating electricity), and job security, ways of working and need to develop new skills.

1.5   **Describe sustainability measures to help reduce the environmental impact of AI.**

Indicative content

a.   Green IT initiatives.
b.   Data centre energy and efficiency.
c.   Sustainable supply chain.
d.   Choice of algorithm.
e.   Low-code/no-code programming.
f.   Monitoring and reporting environmental impact.

Guidance

The development and running of AI can require significant computational power and consume substantial amounts of energy. Candidates should understand the environmental considerations of AI and the different measures that can be taken throughout the AI lifecycle to reduce its environmental impact.
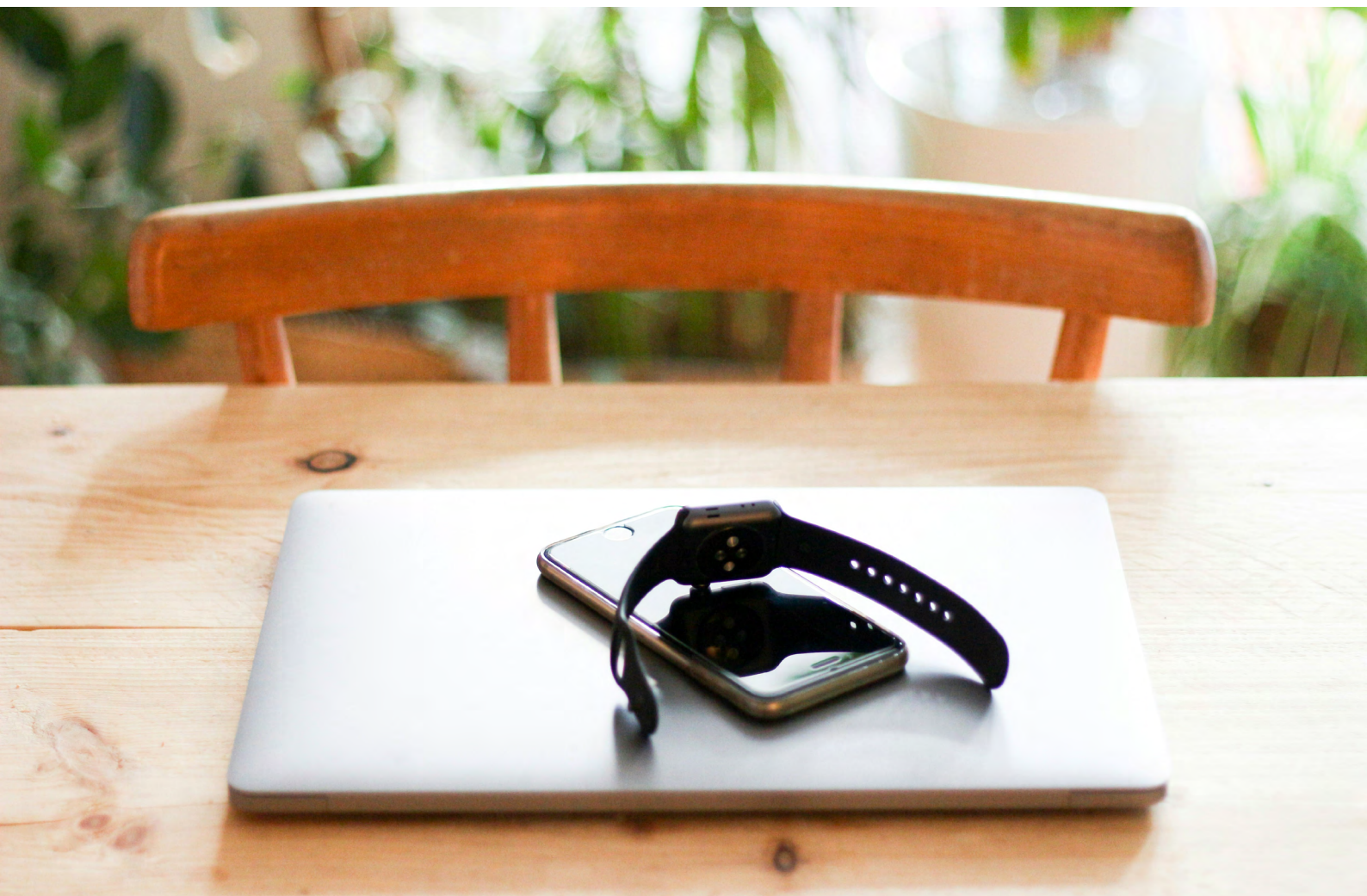
SYLLABUS

2.1 **Describe ethical concerns, including bias and privacy, in AI.**

Indicative content

a. What is ethics?
b. Differences between ethics and law.
c. Ethical concerns:
   • potential for bias, unfairness, and discrimination.
   • data privacy and protection.
   • impact on employment and the economy.
   • autonomous weapons.
   • autonomous vehicles and liability framework.

Guidance

AI offers huge opportunities however there are also commonly held ethical concerns about its increasingly widespread use.

Ethics are the moral principles that govern a person's behaviour or the conducting of an activity.

Candidates will be able to state the general definition of ethics, describe the differences between ethics and law, and describe the different areas of concern.

2.2 **Describe the importance of guiding principles in ethical AI development.**

Indicative content

a. UK AI Principles and other relevant legislation.
   • Safety, security and robustness.
   • Transparency and explainability.
   • Fairness.
   • Accountability and governance.
   • Contestability and redress.
b. What is ethics?

Guidance

Guiding principles in ethical AI development work to ensure that AI technologies are designed and implemented responsibly.

AI governance is a set of practices to keep AI systems under control so that they remain safe and ethical e.g. policies and standards to adhere to in organisations, AI steering committees.

Candidates should understand these guiding principles and be able to describe their impact in the ethical development and use of AI.

2.3   Explain strategies for addressing ethical challenges in AI projects.

Indicative content

a. Challenges:
   - Self-interest.
   - Self-review.
   - Conflict of interest.
   - Intimidation.
   - Advocacy.
b. Strategies:
   - Dealing with bias.
   - Openness.
   - Transparency.
   - Trustworthiness.
   - Explainability.

Guidance

Addressing ethical challenges in AI projects is crucial for ensuring responsible and trustworthy deployment. Ethical considerations should be integrated into every stage of AI development, from data collection to deployment with the use of guidelines and frameworks that address ethical concerns e.g. ethical risk framework.

Candidates will be able to identify the challenges to ethical behaviour and the ways in which they can be minimised.

2.4   Explain the role of regulation in AI.

Indicative content

a. The need for regulation.
b. The AI regulation landscape, e.g. WCAG.
c. Data Protection Act 2018 and UK GDPR.
d. International Standards Organisation (ISO, NIST).
e. The consequences of unregulated AI.

Guidance

Regulation has an important role to play in the development and use of AI technology. It ensures there is clear legal accountability that governs its effective management.

Candidates will be able to explain the need for regulation, professional standards (ethical, accountable, competent, inclusive). They will understand the current and proposed regulations that will influence the continued development and use of AI in the UK and the EU.

Indicative content

Guidance

a. Risk:
    - Risk definition "a person or thing regarded as a threat or likely source of danger."
    - Risk management refers to a process or series of processes which allow risk to be understood and minimised proactively.
b. Techniques:
    - Risk analysis.
    - SWOT analysis.
    - PESTLE.
    - Cynefin.
c. Navigate AI-related regulations and standards:
    - UK AI Principles.
d. Risk mitigation strategies:
    - Ownership and accountability.
    - Stakeholder involvement.
    - Subject matter experts.

Candidates will be able to identify risks, risk management techniques and risk mitigation strategies including the importance of minimising risk, in relation to AI adoption.

They will be able to explain AI-related regulations and standards.

RISK MANAGEMENT
A PROCESS OR SERIES OF PRCOESSES WHICH ALLOW RISK TO BE UNDERSTOOD AND MINIMISED PROACTIVELY.

SYLLABUS

3.1 List common examples of AI.

Indicative content

a. Human compatible.
b. Wearable.
c. Edge.
d. Internet of Things.
e. Personal care.
f. Self-driving vehicles.
g. Generative AI tools.

Guidance

There are countless examples of AI in everyday life, and candidates should be able to recognise examples of and describe those listed.

3.2 Describe the role of robotics in AI.

Indicative content

a. Definition of robotics - "a machine that can carry out a complex series of tasks automatically, either with or without intelligence."
b. Intelligent or non-intelligent.
c. Types of robots:
   • Industrial.
   • Personal.
   • Autonomous.
   • Nanobots.
   • Humanoids.
d. Robotic process automation (RPA).

Guidance

Candidates should be able to state the definition of robots as stated and differentiate between intelligent and non-intelligent robots. They should explain that RPA refers to a machine that can carry out a complex series of tasks automatically, either with or without intelligence, usually with a goal of improving processes.

Various types of robots exist, and candidates should be familiar with each of these and what they are used for.

3.3 Describe machine learning.

Indicative content

a. Machine learning - "The field of machine learning is concerned with the question of how to construct computer programs that automatically improve with experience." Tom Mitchell.

b. Neural networks. - A machine learning program, or model, that makes decisions in a manner similar to the human brain, by using processes that mimic the way biological neurons work together to identify phenomena, weigh options and arrive at conclusions.

c. Deep learning - Deep learning is a multi-layered neural network.

d. Large language models - . "Large language models (LLMs) are deep learning algorithms that can recognise, summarise, translate, predict, and generate content using very large datasets." (IBM).

Guidance

Candidates should understand that machine learning is a subset of AI.

AI itself is not a new concept; machine learning is another step in the evolution of AI. Machine learning is used within data science and is the application of algorithms to derive insight from data and big data.

3.4 Identify common machine learning concepts.

Indicative content

a. Prediction.
b. Object recognition.
c. Classification including random decision forests.
d. Clustering.
e. Recommendations (e.g. Netflix, Spotify).

Guidance

Machine learning can be used in several contexts to complete different types of tasks. Candidates should be encouraged to explore different examples and applications of machine learning.

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3.5 Describe supervised and unsupervised learning.

Indicative content

a. Supervised learning.
b. Unsupervised learning.
c. Semi-supervised learning.

Guidance

It is useful for candidates to have a basic understanding of the different types of approaches to mchine learning to understand how it can be used to work with different types of data and where different algorithms are best used.

Supervised learning involves the application of an algorithm to labelled data to solve a problem, for example, classification, where we know what the output will be.

Unsupervised learning involves the application of an algorithm to unlabelled data to solve a problem, for example, clustering (grouping data based on similarities).

Semi-supervised learning involves the application of an algorithm where during the training of the algorithm we begin with a small amount of labelled data and then introduce a larger amount of unlabelled data.

SYLLABUS

4. FINDING AND USING DATA IN ARTIFICIAL INTELLIGENCE
20% K2

4.1 Describe key data terms.

Indicative content

a. Big data - "extremely large data sets that may be analysed computationally to reveal patterns, trends, and associations" (Dialogic.com).
b. Data visualisation - "the representation of data through use of common graphics, such as charts, plots, infographics and even animations." (IBM).
c. Structured data is data files organised sequentially or organised serially in a tabular format.

d. Semi-structured data is data that does not follow the tabular structure of a relational database but does have some defining or organisational properties that allow it to be analysed.
e. Unstructured data is data that does not follow any pre-defined order or structure.

Guidance

Candidates should be able to identify and describe the key terminology listed.

4.2 Describe the characteristics of data quality and why it is important in AI.

Indicative content

a. 5 data quality characteristics:
   - Accuracy - is it correct?
   - Completeness - is it all there?
   - Uniqueness - is it free from duplication?
   - Consistency - is it free from conflict?
   - Timeliness - is it current and available?
b. Data is money.
c. Data provides insight and supports decision making.
d. Implications of poor quality data can be:
   - Errors and inaccuracies.
   - Bias.
   - Loss of trust.
   - Financial penalties.

Guidance

Candidates should be able to describe the 5 characteristics of good quality data and explain the importance of each. Good quality data, which demonstrates all five of these characteristics, provides accurate information about its subject, and in turn, this helps to inform good decision making and reliable business intelligence. When poor quality data is used to train AI, it can have a negative impact on the performance of the AI model, affecting user confidence.

4.3 **Explain the risks associated with handling data in AI and how to minimise them.**

Indicative content

a. Bias:
   - Multiple sources.
   - Diversity in people handling data and training AI.
   - Fairness metrics.
b. Misinformation:
   - Checking the reliability of sources.
   - SME checks.
c. Processing restrictions:
   - Organisational requirements.
   - Frameworks and regulations.
d. Legal restrictions:
   - UK GDPR.
   - DPA 2018.
   - Staying abreast of new requirements.
e. The scientific method.

Guidance

Throughout the data lifecycle, there are various risks to consider, including how data is legally gathered and stored, to ensuring it is processed in line with its intended use, and is free from bias or misinformation.

Candidates should be aware of these risks and explain the use of mitigation measures listed. Risks are useful in helping AI to learn, using the scientific method of learning from experience. Candidates should have an awareness of the scientific method and how it relates to AI.

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4.4 **Describe the purpose and use of big data.**

Indicative content

a. Storage and use.
b. Understanding the user.
c. Improving prcoess.
d. Improving experience.

Guidance

Big data is used to drive insight and improvement. Candidates should understand that through harnessing big data, organisations have huge insight into customer or user behaviour and preferences, this can allow for targeted marketing and personalised experiences. Organising and analysing big data also supports in business decision making and process improvement, by helping organisations to understand more of the bigger picture.

4.5 **Explain data visualisation techniques and tools.**

Indicative content

a. Written.
b. Verbal.
c. Pictoral.
d. Sounds.
e. Dashboards and infographics.
f. Virtual and augmented reality.

Guidance

Data visualisation is required to format data in a manner which is meaningful and digestible to the intended audience. Good data visualisation means that data can be consumed, analysed, summarised, and used easily, which supports decision making.

4.6 **Describe key generative AI terms.**

Indicative content

a. Generative AI - "Refers to deep-learning models that can generate high-quality text, images, and other content based on the data they were trained on." (IBM).
b. Large languge models (LLMs) "Deep learning algorithms that can recognise, summarise, translate, predict, and generate content using very large datasets." (IBM).

Guidance

Candidates should be able to describe the terms generative AI and large language model and identify them in use.

4.7 **Describe the purpose and use of generative AI including large language models.**

Indicative content

a.   Trained on huge volumes of data.
b.   Uses training to predict next word in text.
c.   Generates coherent and human-sounding language.
d.   Prompt engineering.
e.   Natural language processing.
f.   Image generation.

Guidance

Generative AI models output text or images in response to a user prompt, or request.

Large language models (LLMs) are a generative AI tool, designed to generate a written response to a user query, in a way which mimics a human response. Candidates should understand that these models are trained using enormous volumes of data, which it uses to predict the most suitable word – chain of words – to respond to a user query. By using prompt engineering (designing a more specific, detailed request and building on it), a more specific or robust response can be generated.

4.8 **Describe how data is used to train AI in the Machine Learning process.**

Indicative content

a.   Stages of the Machine Learning process:
   •   Analyse the problem.
   •   Data Selection.
   •   Data Pre-processing.
   •   Data Visualisation.
   •   Select a Machine Learning model (algorithm).
      ›   Train the model.
      ›   Test the model.
      ›   Repeat (Learning from experience to improve results).
   •   Review.

Guidance

The machine learning process allows us to define the solution based on the problem that has been identified through the process of data selection, pre-processing, visualisation and testing of data with specific algorithms.

There is no defacto method within machine learning, learning through experience is vitally important. Testing involves creating the correct test data, creating bodies of data to learn from and parameters for what you wish to test.

SYLLABUS

5.1 **Idenitfy opportunities for AI in your organisation.**

Indicative content

a. Opportunities for automation.
b. Repetitive tasks.
c. Content creation – generative AI.

Guidance

Candidates should be able to identify simple opportunities for AI in an organisation, such as an opportunity to automate a process, or minimise the human input into a repetitive task.

5.2 **List the contents and structure of a business case.**

Indicative content

a. Introduction.
b. Management or executive summary.
c. Description of current state.
d. Options considered.
 • Option described.
 • Analysis of costs and benefits.
 • Impact assessment.
 • Risk assessment.
e. Recommendations.
f. Appendices/supporting information.

Guidance

A business case would be required to provide insight and justification for undertaking a project and is used to secure funding.

A business case should contain each of these elements, providing decision makers with enough detail to evaluate the proposed recommendations.

Candidates should be familiar with this structure and the type of information which would be included in each section.

5.3   Identify and categorise stakeholders relevant to an AI project.

Indicative content

a.   Stakeholder definition.
b.   Stakeholder categorisation.
   •   Power/interest grid.
   •   Stakeholder wheel.

Guidance

Identifying stakeholders is a key first step in stakeholder management, and the stakeholder wheel and PI grid can be used to appropriately categorise them. This is necessary to understand who has influence and input into a project and to ensure they have the appropriate level of management.

Candidates should be able to identify descriptions of stakeholders and the relevant categories.

5.4   Describe project management approaches.

Indicative content

a.   Agile.
b.   Waterfall.
c.   Hybrid.

Guidance

Candidates should be able to describe the key characteristics of these project management approaches, their suitability for a given project and recognise them in use.

5.5 **Identify the risks, costs and benefits associated with a proposed solution.**

Indicative content

a. Risk analysis.
   • Risk assessment.
   • Risk owners.
b. Risk appetite.
c. Risk management strategies.
   • Accept.
   • Mitigate (including sharing, contingency planning).
   • Avoid.
   • Transfer.
d. Financial costs and benefits.
   • Forecasting.
   • Margin for error.
e. Socio-economic benefits.
f. Triple bottom line.

Guidance

Candidates should be able to identify basic risks, costs and benefits of implementing an AI project or solution. It is necessary to identify and assess potential risks, to ensure suitable mitigation and owners are assigned, and to ensure the risks align with the organisations risk strategy.

A cost-benefit analysis is a systematic process that businesses use to analyse which decisions to make and which to forgo. The cost-benefit analysis sums the potential rewards expected from a situation or action and then subtracts the total costs associated with that action.

5.6 **Describe the ongoing governance activities required when implementing AI.**

Indicative content

a. Compliance.
b. Risk management.
c. Lifecycle governance.
   • Manage.
   • Monitor.
   • Govern.

Guidance

The three areas that governance must address are: compliance to satisfy regulations; risk management to proactively detect and mitigate risk; and lifecycle governance to manage, monitor and govern AI models.

(10 things governments should know about responsible AI, IBM 2024)

SYLLABUS

6.1 **Describe the roles and career opportunities presented by AI.**

Indicative content

a. AI specific roles including: machine learning engineer, data scientist, AI research scientist, computer vision engineer, natural language processing (NLP) engineer, robotics engineer, AI ethics specialist, AI anthropologist.
b. Opportunities for existing roles.
  - Additional training and knowledge.
  - Improved efficiency.
  - Automation.

Guidance

AI is a rapidly evolving field, and new roles emerge regularly.

Candidates will be able to describe the various career opportunities evolving in this field – they will not be assessed on the names or duties of specific job roles.

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6.2 **Identify AI uses in the real world.**

Indicative content

a. Marketing.
b. Healthcare.
c. Finance.
d. Transportation.
e. Education.
f. Manufacturing.
g. Entertainment.
h. IT.

Guidance

AI tools and services are now part of the real world.

Candidates will be able to describe practical examples of AI applications in different sectors e.g. AI-powered recommendation algorithms in entertainment, instantly converting a web page from a foreign language to your own, banks leveraging AI models to detect fraud, conduct audits and evaluate customers for loans, self-driving cars, chatbots, AI-powered digital assistants etc.

6.3 Explain AI's impact on society, and the future of AI.

Indicative content

a. Benefits of AI.
b. Challenges of AI.
c. Potential problems of AI.
d. Societal impact.
e. Environmental impact – sustainability, climate change and environmental issues.
f. Economic impact – job losses, retraining for new AI roles.
g. Potential future advancements and direction of AI.
h. Human plus machine.

Guidance

AI is evolving rapidly. This rapid technological advancement comes with benefits and challenges at societal level. Candidates should be able to explain these benefits and challenges and the impact on society. They should also be able to discuss the potential future of AI.

Benefits include: reducing human error through task automation, processing and analysing vast amounts of data for informed decisions (AI algorithms) and AI-powered tools in assistance in in medical diagnosis.

Challenges include ethical concerns about algorithm bias and privacy, job loss, lack of creativity and empathy, security risks from hacking, socio-economic inequality, market volatility because of AI-driven trading algorithms and AI systems rapid self-improvement.

Potential future advancements & direction of AI e.g. increased computing power, availability of more data, better algorithms, improved tools.

6.4 Describe consciousness and its impact on ethical AI.

Indicative content

a. What is human consciousness?
b. What is AI consciousness?
c. Kurzwell Singularity - a future period characterised by rapid technological change that will irreversibly transform human life.
d. Seth's theory of human consciousness - self-reporting capabilities, seeming conscious and conversational, presence of senses and embodiment.
e. Functional capabilities v human consciousness.
f. AI projects in light of ethical considerations and consciousness.
g. Ethical challenges associated with artificial consciousness.

Guidance

Artificial consciousness is consciousness hypothesised to be possible in artificial intelligence. Can AI have autonomous intentions and make conscious decisions, and how would this ability affect their ethical behaviour?

Candidates should be able to describe the concept of consciousness and explain the difference between functional capabilities which may mimic consciousness, and genuine human consciousness. They should consider the impact and potential ethical implications of artificial consciousness being used in AI. Should people feel like they're interacting with a human when they're not?

EXAMINATION FORMAT

This award is assessed by completing an invigilated online exam that candidates will only be able to access at the date and time they are registered to attend.

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.

TYPE

40 MULTIPLE CHOICE QUESTIONS

DURATION

60 MINUTES

SUPERVISED

YES

THIS AWARD WILL BE SUPERVISED

OPEN BOOK

NO

(NO MATERIALS CAN BE TAKEN INTO THE EXAMINATION ROOM)

PASSMARK

(65%)

26/40

DELIVERY

ONLINE FORMAT ONLY

QUESTION WEIGHTING

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

- Guidance on the proportion of content allocated to each topic area of an accredited course.

- Guidance on the proportion of questions in the exam.

Syllabus Area

1	Introduction to AI and historical development	15%	
2	Ethical and legal considerations	15%	
3	Enablers of AI	15%	
4	Finding and using data in AI	20%	
5	Using AI in your organisation	20%	
6	Future planning and impact - human plus machine	15%	

Question Type

All questions
are single mark,
multiple choice.
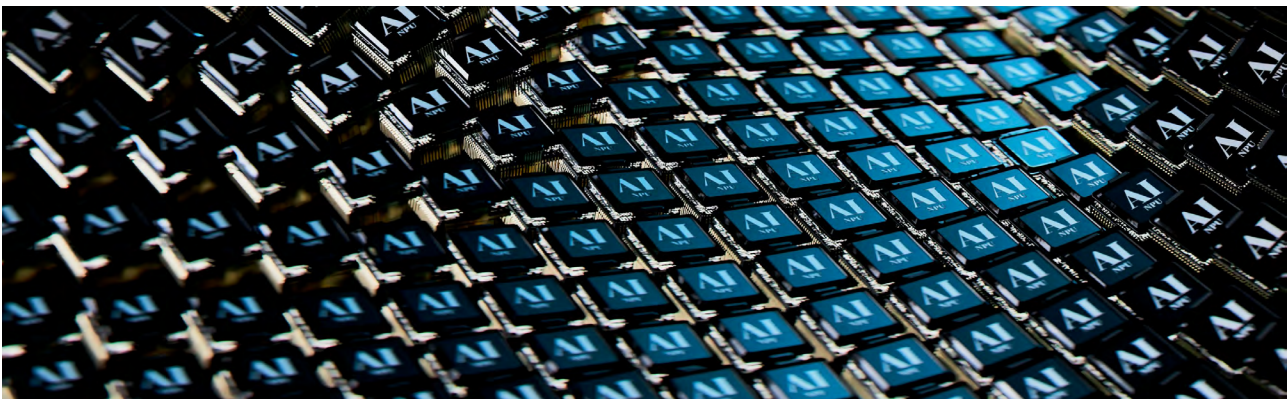
RECOMMENDED READING

The following titles are suggested reading for anyone undertaking this certificate.
Candidates should be encouraged to explore other available sources.

TITLE: Artificial Intelligence Foundations: Learning from experience

AUTHOR: Andrew Lowe and Steve Lawless

PUBLISHER: BCS

PUBLICATION DATE: *February 2021*

ISBN: *9781780175287*

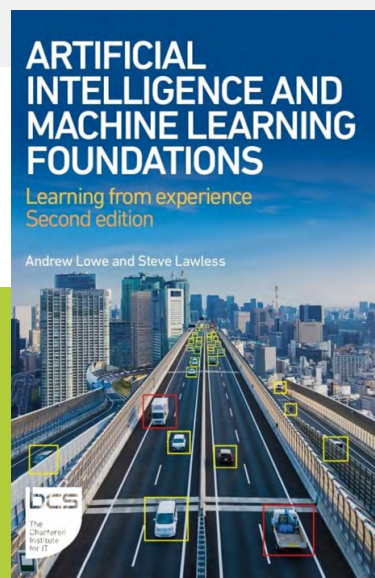*Note - second edition due for publication October 2024.*

TITLE: Getting Started with ChatGPT and AI Chatbots: An introduction to generative AI tools

AUTHOR: Mark Pesce

PUBLISHER: BCS

PUBLICATION DATE: *December 2023*

ISBN: *9781780176413*

USING BCS BOOKS

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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.

VERSION NUMBER	CHANGES MADE
V1.0 October 2019	**Document created.**
V1.1 October 2020	**Amendment to Description. Agent Modelling changed to Intelligent Agent.**
V1.2 August 2023	**PSAG changes throughout, missing publishing information added to reading list.**
V1.3 November 2023	**Updated reading list.**
V2.0 August 2024	**All learning objectives and topics changed to reflect latest industry developments. Updated reading list.**