

UNDERSTANDING ETHICAL PRINCIPLES IN THE IT PROFESSION V2.0

SYLLABUS

BCS FOUNDATION AWARD

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



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INTRODUCTION AND OVERVIEW

INTRODUCTION

The BCS Foundation Award in Understanding Ethical Principles in the IT Profession is designed for individuals seeking to understand the purpose and value of ethics in a modern workplace.

Ethics is the cornerstone of society; it helps to shape organisational culture and it influences decision making. As the use of digital technology is now integrated into virtually every aspect of everyday life, ethics in IT is becoming more important than ever.

This award is designed to enable individuals to explore ethics in relation to their own role and the ethical principles upheld within the IT profession. It aims to show them how to identify common threats to their ethical behaviour and the safeguards that can help to minimise these threats. It also considers the role of legislation and corporate governance in ensuring ethical standards are promoted and maintained.



LEARNING OUTCOMES

- The importance of ethics to society, business and IT professionals
- The ethical behaviour required by IT professionals
- The role of corporate governance
- Relevant legislation
- The ethical dilemmas and safeguards



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 award is suitable for any individual working in an IT role, from a CIO to a service desk operative and all that is in between.

This award has been created alongside a selection of other awards available from BCS which offer candidates a clear pathway of progression into other disciplines of IT.

This makes it ideally suited for those looking for a change in career, an upskilling workforce, and sustainable employers.

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

This award counts towards achieving your Foundation Certificate in AI and/or your Foundation Diploma in AI.

- To receive the Foundation Certificate in AI, you need to achieve four awards - one award from each of the categories listed here (<https://www.bcs.org/media/qd5dotas/ai-pathway-24.png>)
- To receive the Foundation Diploma in AI, you need to achieve eight awards in total - one or more award from each of the categories listed here (<https://www.bcs.org/media/qd5dotas/ai-pathway-24.png>)

Once you have achieved this, please contact your training provider or, if you are a self-study candidate, BCS. Your certificate will then be processed.

TOTAL QUALIFICATION TIME	GUIDED LEARNING HOURS	INDEPENDENT LEARNING*	ASSESSMENT TIME
50 hours	16 hours	33.5 hours	30 minutes

*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 deliver this award effectively, trainers should possess:

- BCS Foundation Certificate in Artificial Intelligence
- A minimum of 2 years' training experience or a recognised training qualification.

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

SFIAPLUS

This syllabus has been linked to the SFIA knowledge, skills and behaviours required at level 4 for an individual working in the following subject areas.

KSB24

Working collaboratively with others to achieve a common goal.

KSC19

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

For further information about SFIA levels can be found at: www.bcs.org/levels



SYLLABUS

1. THE IMPORTANCE OF ETHICS TO SOCIETY, BUSINESS, AND IT PROFESSIONALS (20%) K1/K2

1.1 Explain the impact of ethical principles on society.

Indicative content

- a. Respect for privacy
- b. Maintaining data security and integrity
- c. Fairness and equity
- d. Transparency
- e. Accountability
- f. Beneficence
- g. Sustainability

Guidance

As IT professionals, we have a duty to ensure that we make IT good for society. Learners should understand what it means to act ethically and to be professionally competent, and how the BCS code of conduct, as well as our own professional development, help guide this.

Ethical guidelines have a profound impact by shaping how AI technologies are developed, deployed and integrated into everyday life. For example, by setting standards that prevent biases in AI algorithms, ethical principles help to ensure that AI systems do not perpetuate or exacerbate social inequalities. Learners should be able to explain the societal impact of both adhering to and not following ethical principles. Learners should also understand the difference between ethical guidelines and regulations enforceable by law.

1.2 Explain the impact of ethical principles on organisations.

Indicative content

- a. Reputation
- b. Risk management
- c. Compliance
- d. Innovation
- e. Sustainability
- f. Decision making

Guidance

As technologies become increasingly integrated into everyday operations, the adoption of guiding ethical principles is key. The impact of how ethical principles are handled can be significant, influencing the image of an organisation and informing broader strategies. For example, an organisation's reputation can be significantly enhanced or damaged by the way it is utilising AI. Organisations that are guided by ethical principles are likely to gain public confidence. Conversely, those that fail to consider the ethical implications of their AI systems risk a loss of stakeholder trust, which can have lasting negative effects.

1.3 Explain the impact of ethical principles on individuals.

Indicative content

- a. A world without ethics (e.g. an unpredictable world based on self-interest, leading to distrust)
- b. The role of trustworthiness (e.g. in strengthening social bonds and facilitating cooperation)
- c. 7 deadly sins (the role of ethical principles in recognising and avoiding negative behaviours)
- d. Profit first (the harmful consequences of prioritising profit over ethics)
- e. Cultural influences (how this might influence how someone acts - in a good or bad way)
- f. Ethical attitudes and behaviours (e.g. fairness, respect, empathy)

Guidance

Learners should be able to explain the meaning and impact of “ethics” – the values and integrity we display as individuals, organisations, and society. Unlike laws or regulations, we have no legal obligation to operate ethically – so why do we and why should we? Consider a business operating with no regard for truth or for privacy, for example. Learners should understand the interplay between legal obligations and following ethical principles, and be able to recognise when legal compliance may not necessarily equate to ethical behaviour and vice versa.



2. ETHICAL BEHAVIOUR REQUIRED BY IT PROFESSIONALS (20%) K1/K2

2.1 Explain the differences between a rules-based system and a principles-based system.

Indicative content

- a. Consequences
- b. Intention
- c. Internal oversight/enforcement of rules
- d. External oversight/regulation

Guidance

Learners should be able to explain the differences between a rules-based system (limited flexibility, prescriptive, consistent, little room for judgement) and a principles-based system (increased flexibility, generally accepted ways of working, room for individual judgement). The consequences of each approach, such as room for error and level of consistency, should be considered.

2.2 Describe the key elements of the BCS Code of Conduct.

Indicative content

- a. Public interest
- b. Professional competence and integrity
- c. Duty to relevant authority
- d. Duty to the profession

Guidance

Learners should be able to describe the four key principles of the BCS code of conduct and give examples of how they implement these in their own practices.

2.3 Describe the key points of the ethical standard ISO 26000.

Indicative content

- a. Importance of integrating social responsibility into governance frameworks
- b. Benefits of implementing ISO 26000
- c. 7 principles of social responsibility

Guidance

The purpose of ISO 26000 is to 'promote a common understanding of social responsibility' and provide guidance to organisations in operating in a socially responsible manner (iso.org, 2018).

Learners should be able to describe the key principles of ISO 26000 and understand the importance of integrating social responsibility into governance frameworks; for example, how it can support the effective management of organisations' impact on society, the environment and stakeholders. ISO 26000 also promotes a culture of continuous improvement in social responsibility performance (iso.org, 2018).

2.4 Identify ethical behaviours required to deal with different situations.

Indicative content

- a. Professional competence
- b. Integrity
- c. Professional behaviour
- d. Confidentiality
- e. Reporting

Guidance

The aim is for candidates to understand that each situation, project, etc. presents its own ethical challenges and as an individual, team or organisation, one must consider the behaviours needed to handle it successfully and ethically.

'ETHICAL USE OF AI IS A FUNDAMENTAL REQUIREMENT, AND WE NEED TO BUILD IN OUR ETHICS FROM THE START'

Lowe and Lawless (2021), Artificial Intelligence Foundations

3. THE ROLE OF CORPORATE GOVERNANCE (10%) K1/K2

3.1 Describe the role of corporate governance in an organisation.

Indicative content

- a. Shareholders, directors, executives, workers
- b. Committees (including audit and risk)
- c. Objective of corporate governance including people, process, performance, and purpose
- d. The role of the chairman

Guidance

Learners should understand the role of the board in establishing a governance framework to ensure the organisation is compliant with all necessary laws and regulations, accountable for their actions, and considering the impact on various stakeholders when doing so. Learners should also be able to describe the responsibilities underlying each role and define the term 'corporate governance'. Exploring the 4Ps of corporate governance and what sits within each objective helps learners understand the aspects integral to the effective governance of an organisation.

3.2 Identify ways to monitor corporate governance.

Indicative content

- a. Audit
- b. Reporting

Guidance

Learners should be able to identify ways of monitoring and controlling corporate governance. Audits may be completed internally or externally by various committees and/or regulatory bodies. Various reporting responsibilities should also have been established – again, both internally and externally, for example, with shareholders.

4. LEGISLATION (10%) K1/K2

4.1 Identify basic business laws and standards that influence the way an organisation operates.

Indicative content

- Health and Safety at Work Act 1974
- Human Rights Act 1998
- Equality Act 2010
- General Data Protection Regulation (GDPR), including Data Protection Act 2018
- EU AI Act (2024)
- British Standards

Guidance

Learners should be able to identify the most common range of laws and standards that affect organisational operation; they also be able to list their key points and their impact on organisational activities.

4.2 Identify elements of data privacy laws that organisations must operate within.

Indicative content

- General Data Protection Regulation (GDPR), including the Data Protection Act 2018

Guidance

Learners should be able to identify the key principles of data protection, as well as the roles, responsibilities and rights of individuals and businesses in relation to data protection (e.g. the role of the data protection officer, the data controller, right of access, etc).



5. ETHICAL DILEMMAS AND SAFEGUARDS (40%) K1/K2

5.1 Identify potential ethical dilemmas facing IT professionals and safeguards that can be implemented.

Indicative content

- a. Human-centred design
- b. Not considerate of human, focus on profit
- c. E-waste
- d. Unconscious bias
- e. Tracking an individual (unbeknownst to them), e.g. facial recognition
- f. Safeguards (reporting, code of conduct, governance)

Guidance

IT professionals often encounter ethical dilemmas that challenge the balance between innovation and ethical responsibility. Key issues include balancing financial motives with the wellbeing of users, managing the environmental impact of e-waste, and addressing unconscious biases in AI algorithms. To safeguard against these ethical pitfalls, organisations should implement robust measures such as transparent reporting mechanisms, strict codes of conduct, and effective governance structures. Learners should be able to identify ethical dilemmas and the measures to be implemented in order to mitigate them.

5.2 Explain the term “sustainability” in relation to IT.

Indicative content

- a. Environmental sustainability
- b. Energy efficiency
- c. Reputation and brand image
- d. Regulation compliance
- e. Technological advancements

Guidance

Sustainability in information technology, or ‘green IT’, refers to designing, developing, and using technology in an environmentally sustainable manner, focusing on reducing energy consumption and minimising electronic waste. Green IT aims to promote the efficient and responsible use of technology while reducing the environmental impact. Sustainable practices include optimising energy use in data centres, developing software that supports resource efficiency, and implementing recycling and waste reduction programmes. Learners should be able to explain what sustainability means and identify sustainable practices.

5.3 Describe the key components of the triple bottom line and the impact of this on IT professionals.

Indicative content

- a. Economic, environmental, social impact

Guidance

The triple bottom line is a framework that broadens the focus of an organisation's responsibilities to include social and environmental concerns, in addition to financial gains. This concept is often summarised as "people, planet, profit" and called the three Ps of sustainability. It encourages organisations to measure their success not just by the traditional fiscal bottom line, but also by their impact on society and the environment. IT professionals must consider the social impact of their activity – financials aside – and think beyond the technical and economic outcomes of their decisions. Learners should be able to describe each component of the triple bottom line.



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

TWENTY
MULTIPLE-CHOICE
QUESTIONS

DURATION

30 MINUTES

SUPERVISED

YES
THIS AWARD WILL BE
SUPERVISED

OPEN BOOK

NO
(NO MATERIALS CAN
BE TAKEN INTO THE
EXAMINATION ROOM)

PASSMARK

(65%)
13/20

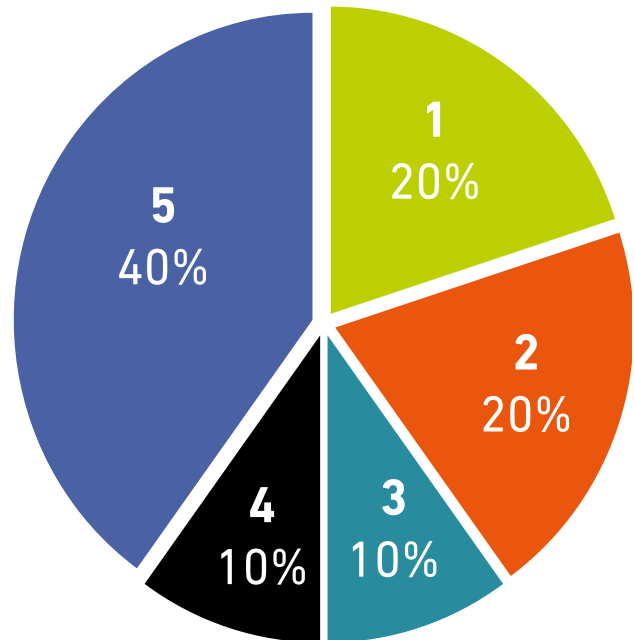
DELIVERY

DIGITAL FORMAT ONLY

QUESTION WEIGHTING

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

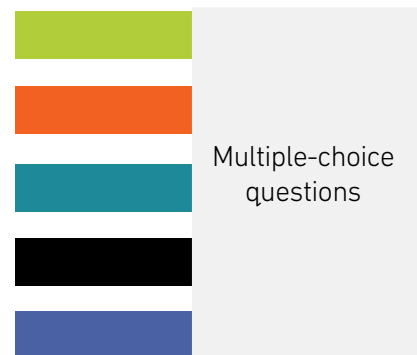
- Guidance on the proportion of content allocated to each topic area of an accredited course.
- Guidance on the proportion of questions in the exam.



Syllabus Area

- 1** The importance of ethics to society, business and IT professionals
- 2** Ethical behaviour required by IT professionals
- 3** The role of corporate governance
- 4** Legislation
- 5** Ethical dilemmas and safeguards

Question Type



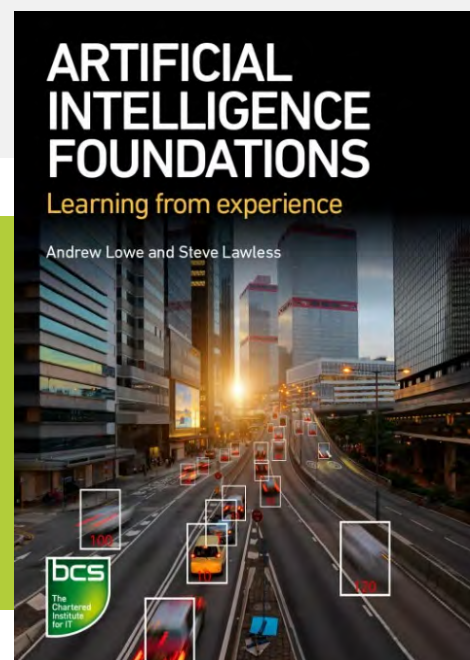
RECOMMENDED READING

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

TITLE: Artificial Intelligence Foundations
AUTHOR: Andrew Lowe & Steve Lawless
PUBLISHER: BCS
PUBLICATION DATE: 2021
ISBN: 978-1-78017-5287

TITLE: Artificial Intelligence and Software Testing
AUTHOR: Rex Black et al.
PUBLISHER: BCS
PUBLICATION DATE: 2022
ISBN: 978-1-78017-5768

TITLE: Cyberethics: Morality And Law In Cyberspace
AUTHOR: Richard A. Spinello
PUBLISHER: Jones and Bartlett; 7th edition
PUBLICATION DATE: 2020
ISBN: 1284184064



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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 and the changes made. The purpose is to identify quickly what changes have been made.

VERSION NUMBER	CHANGES MADE
Version 1.0	Document created.
Version 1.1	Updated information on module credits.

REFERENCES

HM Government (2023), Pro-innovation Regulation of Technologies Review Digital Technologies. Available at: https://assets.publishing.service.gov.uk/media/64118f0f8fa8f555779ab001/Pro-innovation_Regulation_of_Technologies_Review_-_Digital_Technologies_report.pdf (Accessed: 11 July 2024)

ISO.org (2018), Discovering ISO26000. Available at: <https://www.iso.org/files/live/sites/isoorg/files/store/en/PUB100258.pdf> (Accessed: 11 July 2024)

Leslie, D. (2019), Understanding artificial intelligence ethics and safety: A guide for the responsible design and implementation of AI systems in the public sector. Available at: Understanding artificial intelligence ethics and safety: A guide for the responsible design and implementation of AI systems in the public sector. The Alan Turing Institute. <https://doi.org/10.5281/zenodo.3240529> (Accessed: 11 July 2024)

Lowe, A. and Lawless, S. (2021). Artificial Intelligence Foundations. [Insert Publisher Location]: BCS, The Chartered Institute for IT.

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