



UNITED ARAB EMIRATES
MINISTRY OF EDUCATION

UAE National AI Literacy Curriculum Framework (K–12) 2026



Acknowledgement of Endorsing Entities

The UAE National AI Literacy Curriculum Framework has been formally endorsed by recognised national and international entities, reflecting a shared commitment to advancing AI literacy across the education system. In this context, the Ministry of Education extends its appreciation and thanks to these endorsing entities, recognising them as official entities supporting the framework. This endorsement highlights the collective support for the framework and reinforces its credibility, national relevance, and strategic importance.



Executive Summary

Artificial Intelligence is becoming a foundational component of modern societies, economies, and education systems. To ensure students are prepared not only for current demands but also for the rapidly evolving future and emerging trends the UAE National AI Literacy Curriculum Framework (K–12) introduces a structured, age-appropriate approach to Artificial Intelligence Literacy education from Kindergarten to Grade 12, which will enable them to embrace advanced technologies at an early age.

The framework focuses on developing students' understanding of core AI concepts, data and algorithms, ethical and responsible use, societal impact and real-world applications of AI across society and industry. It emphasises critical thinking, problem-solving, ethical reasoning, and innovation, preparing students to engage thoughtfully with AI technologies rather than simply use them. Learning experiences progress developmentally across educational cycles, moving from awareness and foundational concepts in the early years to applied design, evaluation and cross-validation, real-world deployments and innovation in later grades.



Aligned with national priorities and international benchmarks, the framework supports the UAE's strategic direction in artificial intelligence, education, and future skills development. It is benchmarked against leading global AI education frameworks, such as the **UNESCO AI Competency Framework for Students** and the **OECD/European Commission - Empowering Learners for the Age of AI**, to ensure international relevance while remaining grounded in local values, social norms, cultural context, and regulatory requirements. Through structured curriculum design, professional development for teachers, and ongoing monitoring, the framework establishes a consistent, future-ready approach to AI literacy that prepares students for higher education, the workforce, responsible participation and leadership in an AI-enabled world.

This document defines the national AI Literacy Curriculum Framework, establishing the domains, strands, standards, student learning outcomes and learning progression for AI education across K–12. It serves as the guiding reference for the development of instructional materials and other resources required to support curriculum implementation.



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1. Framework Background, Educational Philosophy, and National Context

The United Arab Emirates (UAE) is committed to becoming one of the world's leading nations through high-quality education, innovation, and a competitive knowledge-based economy. Education is a central driver of this ambition and represents a strategic investment in future generations. Within this national context, Artificial Intelligence literacy is positioned as an essential component of modern education and national future-readiness.

Artificial Intelligence education plays a critical role in preparing students to participate responsibly in an increasingly digital and technologically advanced society. By learning how AI systems function, how they are designed, and how they interact with and impact individuals and communities, students are empowered to engage critically with technology rather than interact with it passively.

AI education in the UAE is grounded in the principle that technological advancement must remain guided by human values. Responsible AI citizenship requires students to recognise the importance of fairness, accountability, transparency, safety, and human oversight when designing, evaluating, deploying or using AI systems. Through AI literacy, students develop the ability to balance technological innovation with ethical responsibility and social norms, ensuring that human judgement, empathy, and social responsibility remain central to the development and application of artificial intelligence (AI) technologies.



1.1 Vision and Goals

The UAE National AI Literacy Curriculum Framework (K–12) seeks to:

Prepare a generation of UAE students who possess a deep and informed understanding of Artificial Intelligence and are able to apply it responsibly and innovatively, contributing to future societal and economic progress

Through this vision, students are supported in developing the knowledge, skills, and dispositions required to become informed and innovative contributors capable of designing, evaluating, and applying AI solutions that positively impact their communities and the wider world. The framework also supports the development of responsible citizens who can contribute to the UAE's ambitions for sustainable development, global leadership in innovation, and the responsible governance of emerging technologies.

To achieve this vision, the framework establishes three core goals that guide curriculum design and implementation across all school stages:

Goal 1: Equip all students with foundational knowledge, concepts, and principles of Artificial Intelligence, while developing their awareness of AI ethics, societal impacts, and the requirements for safe and responsible use.

Goal 2: Strengthen students' ability to connect the technical concepts of Artificial Intelligence with real-world applications by using and evaluating smart solutions and developing innovative AI-based ideas and projects.

Goal 3: Prepare students for AI-integrated higher education, careers, and real-world AI challenges.

1.2 Guiding Principles

The Framework is founded on a set of six guiding principles that articulate its purpose, values, and long-term educational intent. These principles define how artificial intelligence should be understood, engaged with, and governed within education systems. They provide a coherent foundation for curriculum design, implementation, and evaluation, ensuring that AI literacy remains human-centred, ethically grounded, future-focused, and responsive to societal needs across all stages of learning.

1. Human Governance of AI

The framework positions artificial intelligence as a human-designed and human-governed system. Students develop a clear understanding that responsibility for AI design, deployment, oversight, and consequences remains with people and institutions, not machines. This principle anchors AI literacy in accountability, agency, and informed human judgement across all contexts of AI use and deployment. Students will also be made aware of challenges and important design principles for human-AI interaction

2. Ethical and Safe AI Use with Inclusive Design

AI literacy is grounded in ethical reasoning that prioritises fairness, safety, transparency, privacy, and accessibility. The framework ensures that students understand how data quality, bias, representation, and system design affect outcomes for individuals and communities. Ethical and safe considerations are treated as core competencies, enabling students to evaluate AI systems against societal values and public trust expectations. It will also account for the best practices and developments in the field of AI alignment that aims at steering AI systems towards human values, goals, ethical principles, while ensuring safe, reliable and predictable AI operations, without causing unintended harm or pursuing harmful, unintended shortcuts to accomplish its tasks.



3. Progressive Conceptual Depth and Lifelong Relevance

The framework is designed for sustained progression, enabling students to revisit core AI concepts with increasing sophistication over time. It supports long-term cognitive development by moving from foundational understanding to analytical reasoning and applied evaluation, ensuring relevance across evolving technologies, career pathways, and civic participation. AI literacy is framed as a lifelong capability rather than a transient technical skillset.

4. Critical Engagement with AI-Enabled Systems

Students are empowered to question, analyse, deploy and evaluate AI systems rather than accept outputs uncritically. The framework develops the capacity to interpret AI behaviour, recognise limitations, assess reliability and trustworthiness, and determine when human intervention is required. This principle supports informed decision-making in environments where AI increasingly influences information, services, and opportunities.

5. Societal Impact and Responsible Participation

AI literacy is positioned as essential preparation for responsible participation in an AI-enabled society. The framework connects individual understanding with broader social, economic, cultural, and policy implications of AI. Students are prepared to contribute constructively to innovation, workforce transformation, and public discourse while recognising the collective responsibilities associated with AI adoption and governance.

6. Cultural Appropriateness and Contextualisation

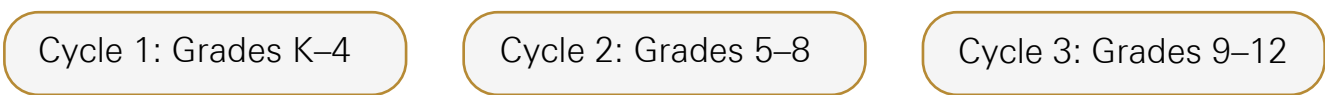
AI literacy is designed and implemented in alignment with the national identity, values, and societal priorities of the United Arab Emirates. The framework ensures that curriculum content, case studies, ethical discussions, and applications reflect national traditions, language, policy directions, and community expectations. Students develop an understanding that certain ethical interpretations, governance approaches, and responsible AI practices are shaped by cultural context, and that AI systems operate within specific social and value-based environments.

At the same time and while the framework is grounded in UAE culture, it remains aligned with globally recognised standards, research, and reference models, as articulated in the International Framework Alignment section. This balance ensures that AI literacy is culturally responsive and nationally relevant while remaining conceptually rigorous, globally comparable, and transferable across diverse international contexts.

2. Curriculum Framework and Components

2.1 Introduction

The UAE adopts a developmental approach to curriculum design by organising grade levels into three educational cycles, reflecting students’ cognitive readiness and age-related learning needs. Accordingly, the Framework spans Kindergarten to Grade 12 and is structured across three cycles to ensure coherent progression, continuity, and depth of learning:



This structure enables students to gradually build foundational understanding, technical competencies, ethical awareness, and applied AI skills across their schooling journey.

Across all cycles and pathways, students engage with three AI Literacy domains to ensure consistent learning progression, smooth transitions between grade levels, and equitable access to essential AI knowledge, skills, values and ethical competencies.

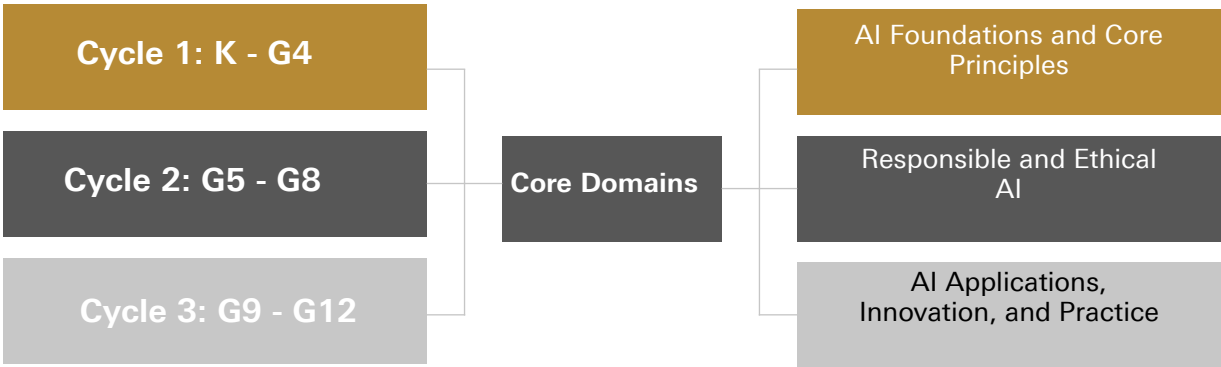


Figure 1: AI Literacy Core Domains Across Cycles 1–3

2.2 Development of The National Curriculum Framework

2.2.1 Development Methodology

The development of the Framework followed a structured curriculum design process to ensure that learning content is systematically organised into domains and strands, and then into standards and student learning outcomes that specify, on a grade-by-grade basis, what students should learn and be able to do.

The framework structure supports consistency, progression, and clarity across Kindergarten to Grade 12, enabling effective curriculum planning, implementation, and assessment.

The development of the framework followed a structure as depicted in the hierarchical figure shown below.

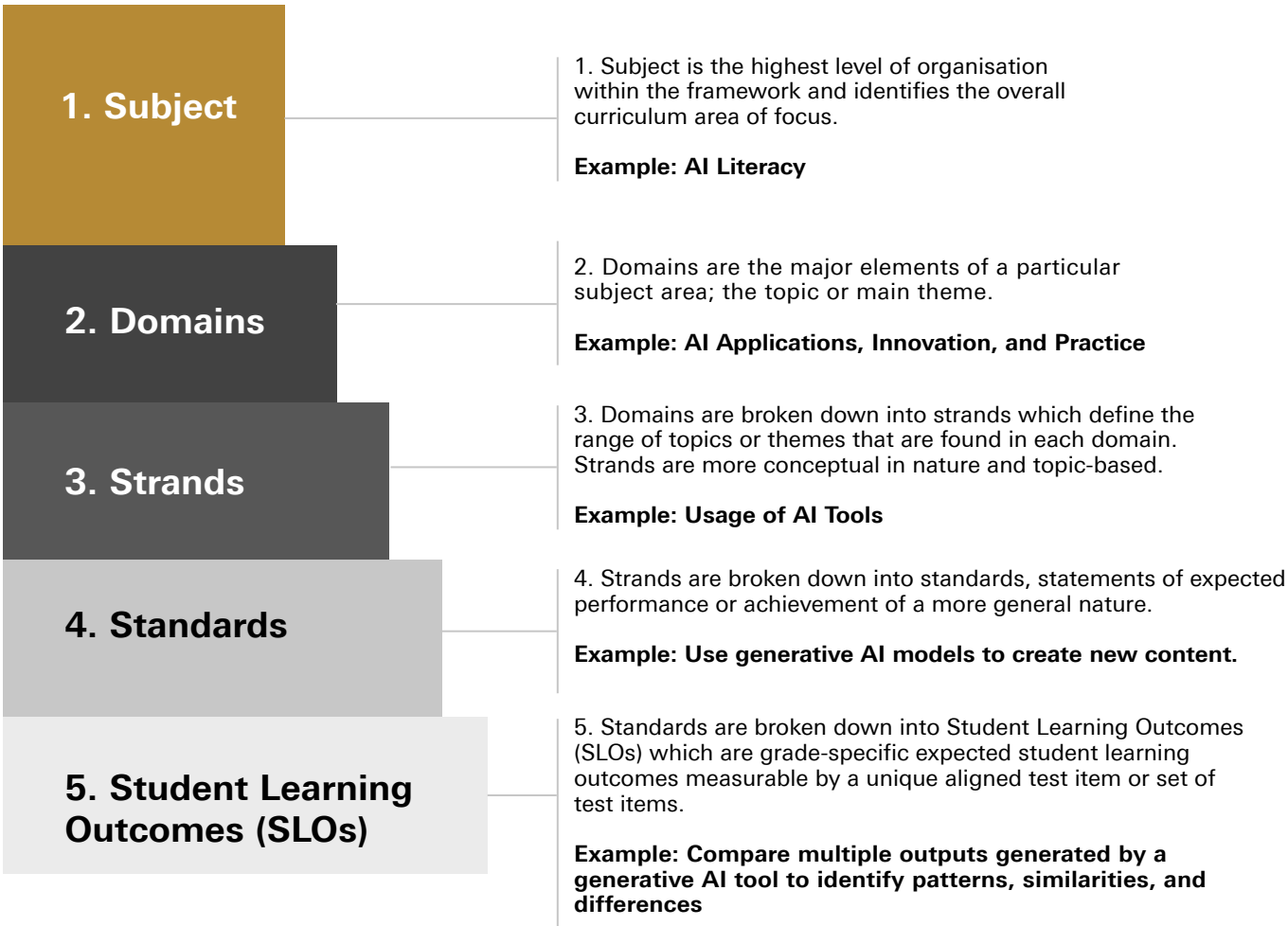


Figure 2: Curriculum Framework Structure

Subject

AI Literacy is the curriculum area of focus and represents the highest level of organisation within the framework. It defines the overall scope of learning related to understanding artificial intelligence, using AI tools responsibly, and evaluating the impact of AI systems on individuals and society.

Domains

Domains are the major elements of the AI Literacy subject. They define the broad learning areas that structure the framework and run continuously across the entire K–12 system. Domains ensure balanced coverage of conceptual understanding, ethical considerations, and practical application of artificial intelligence.

The Framework includes three domains:

- AI Foundations and Core Principles
- Responsible and Ethical AI
- AI Applications, Innovation, and Practice

Strands

Domains are broken down into strands which define the range of topics or themes that are found in each domain. Strands are more conceptual in nature and topic-based. Strands span multiple grade levels, allowing learning to be revisited and extended with increasing depth and complexity, though not all strands necessarily appear in every grade. Strands provide structure and continuity across the framework while supporting developmental progression.

Standards

Standards are the broad target learning objectives within each strand. They describe the expected learning focus for students within the context of the strand.

Each standard is supported by a standard description, which clarifies the intent, scope, and focus of the standard. Standard descriptions provide essential context and act as a bridge between the broad standard and the more specific student learning outcomes.



Standard descriptions:

- Explain what the standard is intended to cover.
- Support consistent interpretation of the standard.
- Ensure alignment between standards and learning outcomes.

Student Learning Outcomes (SLOs)

Student Learning Outcomes (SLOs) are the lowest level of analysis in the current structure of the framework.

SLOs are grade-specific expected learning outcomes. They represent what teachers should target through instruction. Lesson plans should be aligned with SLOs, as should all instructional resources and assessment items. The SLOs provided in the framework are used for lesson planning, materials design, and other pedagogical activities.

Refer to Appendix I (Curriculum Framework Structure) for further details.

2.2.2 Alignment with International Frameworks

The Framework has been developed in alignment with internationally recognised AI education frameworks to ensure global relevance and coherent progression from Kindergarten to Grade 12. It reflects international best practice while remaining aligned with Ministry of Education standards and UAE national priorities. Its purpose is to provide a high-quality, future-focused learning experience that prepares students for further education, emerging careers, and responsible participation in an AI-enabled society.

The framework draws on global references that support ethical, human-centred, and applied approaches to AI learning. These references inform the development of learning outcomes and competencies across cycles, ensuring that students build strong foundations in AI concepts while developing critical-thinking skills and the ability to design, deploy, and use AI responsibly.

Key international references informing the Framework include:

- **OECD/European Commission – Empowering Learners for the Age of AI**, which emphasises engaging with AI, creating with AI, managing AI, and designing AI, with a focus on critical use, creation, and management of AI tools for problem-solving.
- **UNESCO – AI Competency Framework for Students**, which highlights a human-centred mindset, ethics of AI, AI techniques and applications, and AI system design, with an emphasis on ethical, critical, and real-world problem-solving.
- **AI4K12**, which structures AI learning around core concepts such as perception, representation and reasoning, learning, natural interaction, and societal impact, emphasising foundational AI concepts and their ethical and societal implications.

Further details are shown in the table below.

Table 1: *Comparative Analysis of the AI Literacy Curriculum Framework and International References*

Area	Framework OECD/European Commission – Empowering Learners for the Age of AI	UNESCO – AI Competency Framework for Students	AI4K12 (United States)
Grades	Primary and Secondary education	-	K-12
Domains	Engaging with AI, Creating with AI, Managing AI, Designing AI.	Human-Centred Mindset, Ethics of AI, AI Techniques & Applications, AI System Design.	5 Big Ideas: Perception, Representation & Reasoning, Learning, Natural Interaction, Societal Impact
Focus	Critical use, creation, and management of AI tools, along with Designing AI for problem-solving	Human-centred, ethical, and critical use of AI, combined with foundational knowledge and design thinking for real-world problem-solving.	Core AI concepts, with significant societal and ethical implications.
Mapped competencies	Foundational Concepts, Tool Use / Programming, Innovation & Design Projects, Ethical Awareness, Data & Algorithms.	Foundational Concepts, Ethical Awareness, Tool Use / Programming, Real-World Applications, Data & Algorithms, Innovation & Design Projects.	Foundational Concepts, Data & Algorithms, Ethical Awareness, Real-World Applications, Innovation & Design Projects, Policy & Societal Relevance.

2.2.3 Curriculum Overview

2.2.3.1 Curriculum Description

The K–12 AI Literacy Curriculum provides a structured and progressive learning journey that develops students’ understanding of artificial intelligence, their ability to use AI tools, and their awareness of the responsibilities associated with AI systems. It is organised into three domains—AI Foundations and Core Principles; Responsible and Ethical AI; and AI Applications, Innovation, and Practice—which together support conceptual understanding, ethical awareness, and real-world application across grade levels.

Through the AI Foundations and Core Principles domain, students learn that AI systems are human-created tools that follow instructions, rules, and algorithms. They explore how AI systems learn from data, recognise patterns, make predictions, and process information such as images, sounds, text, and behaviour. As learning progresses, students examine machine learning approaches, neural networks, optimisation, probability, and evaluation measures such as accuracy, precision, and recall. They consistently compare AI capabilities with human qualities, recognising that AI does not possess emotions, empathy, creativity or moral judgement.

The Responsible and Ethical AI domain develops students' understanding of human responsibility in designing, using, and governing AI systems. Students examine alignment, safety, privacy, fairness, bias, trust, accountability, explainability, and data protection, and analyse how data quality and human decisions influence AI outcomes. As they advance, they explore ethical trade-offs, cultural values, governance approaches, and risks associated with AI-generated content and automated decision-making, reinforcing the role of human oversight.

The AI Applications, Innovation, and Practice domain focuses on applying AI in real-world contexts. Students investigate uses of AI in science, communication, research, environmental monitoring, transportation, healthcare, public services, security, autonomous systems / robotics and infrastructure. Through structured inquiry and design processes, they identify problems, define requirements, explore existing solutions, and develop models or prototypes. They evaluate solutions based on usefulness, fairness, safety, and impact, refining designs through feedback and evidence.

2.2.3.2 Cycle-Level Overview

The curriculum prepares students to engage critically with AI technologies and to participate responsibly in contexts where AI systems increasingly influence learning, work, and society.

Grades K–4 (Cycle 1)

Cycle 1 (Grades K–4) establishes foundational understanding of artificial intelligence. Students learn that AI is a human-created tool that follows instructions and uses data. They explore core concepts related to AI foundations, data and learning, responsible use, and everyday applications in familiar contexts.

Throughout the cycle, students develop understanding of how AI recognises patterns, learns from examples, and improves performance. They compare AI capabilities with human abilities, recognising that AI does not have feelings or moral judgement. Responsible use is embedded across learning, including safe and fair use, protection of personal information, fairness, bias, accountability, and the role of human judgement.

The cycle also includes guided design tasks where students identify simple problems and create basic AI-supported solutions through collaboration and feedback. By the end of Cycle 1, students demonstrate clear understanding of AI foundations, responsible use, and real-world applications, preparing them for more advanced exploration in later cycles.

Grades 5–8 (Cycle 2)

Cycle 2 builds on foundational understanding and shifts towards deeper conceptual, analytical, and applied engagement with artificial intelligence. Students move from recognising AI as a tool to explaining, analysing, and evaluating how AI systems learn, make decisions, and generate outputs using data and algorithms, while connecting technical concepts to real-world impact.

Students develop in-depth knowledge of data, algorithms, and machine learning, including pattern recognition, classification, content generation, and model improvement through training and evaluation. They explore neural networks, supervised and unsupervised learning, algorithmic decision-making, and basic measures of performance through real-world examples.

Responsible and ethical AI becomes central, with focus on bias, fairness, privacy, accountability, governance, misinformation, and AI-generated media. Students examine how data quality and ethical considerations influence outcomes and when human judgement is required. They are also introduced to national and global approaches to AI regulation.

The cycle emphasises application and innovation through structured design processes. Students identify problems, define requirements, investigate AI tools, compare solutions, develop prototypes, and refine them through evaluation. By the end of Cycle 2, students demonstrate integrated understanding of AI foundations, responsible use, and applied innovation, preparing them for more advanced exploration in later cycles.

Grades 9–12 (Cycle 3)

Cycle 3 represents an advanced, integrative stage in which students develop a systems-level, critical, and applied understanding of artificial intelligence. Building on earlier cycles, students analyse how AI systems are designed, optimised, and governed, and how they interact with human values and societies, with emphasis on analytical reasoning, ethical judgement, and real-world problem solving.

Students deepen their understanding of different AI systems, including logic-based, optimisation-based, and machine-learning models. They examine how data quality, probability, architecture, and design decisions influence performance, and explore advanced concepts such as neural networks, deep learning, optimisation trade-offs, model limitations, and explainability. Students evaluate AI behaviour, identifying strengths, risks, and constraints in real-world contexts.

Responsible and ethical AI remains central, with focus on fairness, bias, accessibility, accountability, governance, data protection, auditing, and regulation. Students assess AI decisions against national and international values, examine how systems may reinforce or reduce inequalities, and evaluate when human judgement is required.

The cycle emphasises advanced applications and human-AI collaboration across multiple sectors. Students analyse trade-offs related to efficiency, safety, creativity, and workforce impact, and explore how AI reshapes skills and roles. Through research-driven design projects, they define requirements, develop and refine prototypes, evaluate outcomes against technical and ethical criteria, and justify decisions.

By the end of Cycle 3, students demonstrate a mature understanding of AI as a socio-technical system shaped by human decisions and governance. They can critically analyse systems, apply ethical reasoning, design AI-enabled solutions, and articulate informed perspectives on AI's role in society.

2.3. Domains Overview

Each domain encompasses a set of interconnected strands that represent essential concepts, skills, and ethical considerations. Together, these components support learners in developing a comprehensive understanding of Artificial Intelligence, enabling them to engage critically, responsibly, and innovatively with AI technologies. The figure below illustrates these three domains and their associated strands, highlighting how they collectively prepare students to navigate and contribute to an AI-driven world.

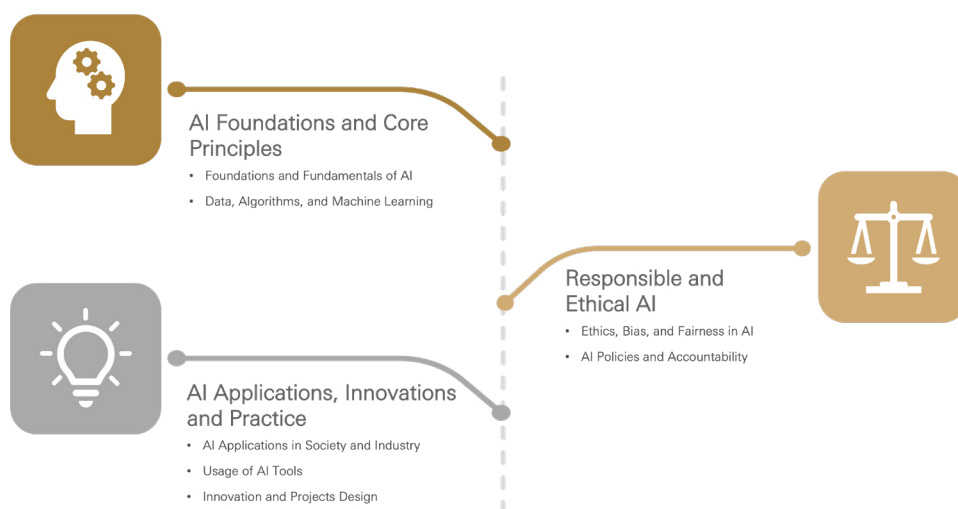


Figure 3: *AI Literacy Domains*

2.3.1 Domain 1: AI Foundations and Core Principles

The AI Foundations and Core Principles domain addresses the Learn AI level by developing students' foundational understanding of artificial intelligence as a human-designed system. Learning outcomes in this domain focus on building conceptual knowledge of how AI systems function, how they differ from humans, and how data and algorithms shape AI behaviour.

Across grade levels, students learn that AI systems:

- Are created by humans and follow explicit instructions, rules, or learned patterns
- Do not possess emotions, empathy, or moral judgement
- Rely on data to recognise patterns, make predictions, and perform tasks
- Operate through algorithms, machine learning processes, and neural networks

As students progress, this domain introduces more advanced concepts, including data quality, supervised and unsupervised learning, model evaluation, optimisation, and performance metrics. The domain provides the essential theoretical foundation required for informed participation in AI design, application, and evaluation.

2.3.1.1 Strands

The domain is organised into clearly defined strands that structure key concepts and system design, with aligned standards that guide the progressive deepening of understanding across grade levels. It includes two strands—Foundations and Fundamentals of AI, which focuses on what AI is, how it works, how it differs from humans, and how human decisions shape its impact; and Data, Algorithms, and Machine Learning, which explores how AI systems learn from information, follow processes to make decisions, and improve their results over time.

Strand 1: Foundations and Fundamentals of AI

Within this strand, students learn that AI systems are human-created tools that follow instructions and use data. They compare similarities and differences between artificial intelligence and humans, developing awareness of the distinct roles, capabilities, and limitations of AI systems.

As understanding deepens, students move beyond explanation and comparison to analysing how AI systems work, examining how data and design choices influence AI behaviour, use, and impact. This supports a stronger conceptual understanding of AI systems as designed technologies rather than autonomous or human-like entities, enabling students to critically analyse how underlying design decisions shape system performance and real-world implications.

Strand 2: Data, Algorithms, and Machine Learning

Within this strand, students explain how AI systems use data to learn and develop a foundational understanding of how algorithms support decision-making. They explore how AI systems generate new outputs using patterns learned from data, building awareness of data-driven behaviour.

Building on this foundation, students analyse how AI systems learn from data and use algorithms to make decisions, and how data characteristics influence decision-making. They examine how AI systems model human emotions and behaviour, and how optimisation is used to pursue goals, including the trade-offs it creates.

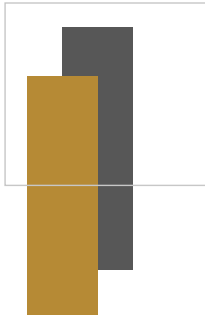
This progression supports engagement with more complex system-level concepts, enabling students to evaluate model performance, analyse how design influences results, explain how advanced models process information, and critically assess AI systems based on data quality, model structure, and performance outcomes.



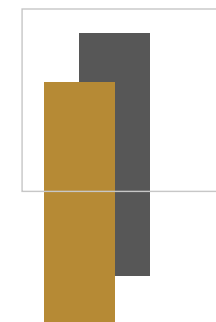
2.3.1.2 Standards and Standards Description

Table 2: AI Literacy Standards by Domain, Strand, and Cycle

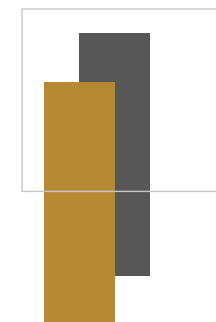
Domain	Strand	Cycle	Standards	Standard Description
AI Foundations and Core Principles	Foundations and Fundamentals of AI	Cycle 1	Explain that AI systems are human-created tools that follow instructions and use data.	The student demonstrates a basic understanding that AI systems are human-created tools that follow instructions to perform simple tasks, can make mistakes when instructions are unclear, rely on humans for correction, and may use rules or examples to make different choices, with guidance from the teacher.
		Cycle 1/ Cycle 2	Compare how artificial intelligence is similar to or different from humans.	In Cycle 1, the student demonstrates a basic understanding of the differences between humans and artificial intelligence by identifying that humans have feelings, empathy, and imagination, comparing actions humans can do with actions AI can copy, and recognising that AI systems do not make moral choices, with guidance from the teacher. In Cycle 1, the student demonstrates an analytical understanding of the differences between humans and artificial intelligence, explaining how AI systems differ from humans in perception, learning, creativity, and decision-making, and recognising the importance of human values and intuition in tasks that AI systems cannot perform.
		Cycle 3	Analyse how AI systems work and how data and design choices affect their use and impact.	The student demonstrates an understanding of how AI systems work by analysing how data quality, system design, and human decisions influence AI performance, outcomes, and real-world impact. This includes identifying the core components of AI systems and explaining how different approaches—logic-based systems using rules and reasoning, optimisation-based systems using objectives and constraints, and machine-learning systems using data for pattern recognition and prediction—shape how AI functions, makes decisions, and is applied across contexts.



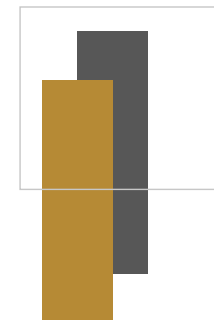
Domain	Strand	Cycle	Standards	Standard Description
AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Cycle 1	Explain how AI systems use data to learn.	The student demonstrates an understanding of how artificial intelligence systems use data to learn by recognising that AI identifies patterns through repeated actions, examples, and simple grouping such as size, colour, or shape. The student explains that AI can recognise pictures, sounds, or words by finding patterns in data, identifies examples of good and bad data, and describes how learning improves when AI uses larger amounts of data. The student defines machine learning, explains how simple AI decisions are made using “if–then” rules, and recognises that AI can use past data patterns to make predictions, with teacher guidance.
		Cycle 2	Explain how AI systems learn from data and use algorithms to make decisions.	The student demonstrates an understanding of how artificial intelligence systems learn from data and use algorithms to make decisions by explaining how ordered and repeated steps guide AI behaviour. The student describes how AI recognises patterns, classifies information, and uses labelled and unlabelled data to learn through different training approaches. The student analyses how changes in rules affect AI decisions, explains how visual representations support pattern identification, and examines how data quality, including missing or incorrect data, can introduce errors or bias. The student also explains why AI models must be tested using new data to ensure reliable outcomes, with guidance as needed.



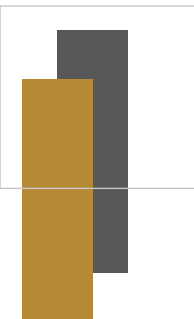
Domain	Strand	Cycle	Standards	Standard Description
AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Cycle 2	Explain how advanced AI models process information.	The student demonstrates an understanding of how advanced artificial intelligence models process information by identifying the main parts of a neural network and explaining how data moves through input, hidden, and output layers. The student differentiates between single-layer and multi-layer neural networks and examines real-world applications of deep learning neural networks to show how complex problems are addressed, with guidance as needed.
		Cycle 2	Evaluate AI model performance.	The student demonstrates an understanding of how AI model performance is evaluated by explaining how accuracy is measured in AI predictions and how it is used to assess model quality. The student explains how a confusion matrix represents different types of prediction errors and describes how precision and recall are used to evaluate the accuracy of AI model predictions, with guidance as needed.
		Cycle 2	Analyse how AI systems generate new outputs using patterns learned from data.	The student demonstrates an understanding of how AI systems generate new outputs by explaining how patterns learned from data are used to recognise faces, process human language, make predictions from personal behaviour data, train voice assistants using human data, and suggest content based on user interests and choices, with guidance as needed.



Domain	Strand	Cycle	Standards	Standard Description
AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Cycle 3	Analyse how data characteristics influence decision-making in AI systems.	The student demonstrates the ability to analyse how data characteristics influence decision-making in AI systems by examining real datasets used for AI, including their size, completeness, balance, and relevance. This includes identifying potential data issues such as bias and missing data, explaining how probability supports algorithmic decision-making, and analysing simple decision processes that combine logic, data, and probabilistic reasoning to produce AI outputs and predictions.
		Cycle 3	Analyse how neural network design influences model performance.	The student demonstrates the ability to analyse how neural network design influences model performance by explaining the relationship between neural networks and deep learning, where deep learning refers to neural networks with multiple hidden layers. The student examines how data is processed through layered network structures and analyses how architectural choices—such as the number of layers, connection patterns (e.g., fully connected, convolutional, recurrent, or residual), and overall network design—affect model accuracy, computational efficiency, and suitability for different tasks. This also includes examining key limitations of neural networks when applied to real-world problems.



Domain	Strand	Cycle	Standards	Standard Description
AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Cycle 3	Analyse how AI systems use optimisation to pursue goals and the trade-offs this creates.	The student demonstrates the ability to analyse how AI systems use optimisation to pursue goals by explaining how objectives are defined and how constraints influence optimisation decisions. This includes evaluating the trade-offs created by optimisation processes, such as accuracy versus efficiency or performance versus fairness, and analysing how these trade-offs affect AI system behaviour and outcomes.
		Cycle 3	Analyse how AI systems model human emotions and behaviour.	The student demonstrates the ability to analyse how AI systems model human emotions and behaviour by examining how AI detects emotional signals from data such as text, speech, facial expressions, or physiological indicators, and how algorithms interpret these signals. This includes analysing how AI systems use data patterns and predictive models to anticipate human behaviour or actions, and considering the accuracy, limitations, and implications of using such models in real-world contexts.



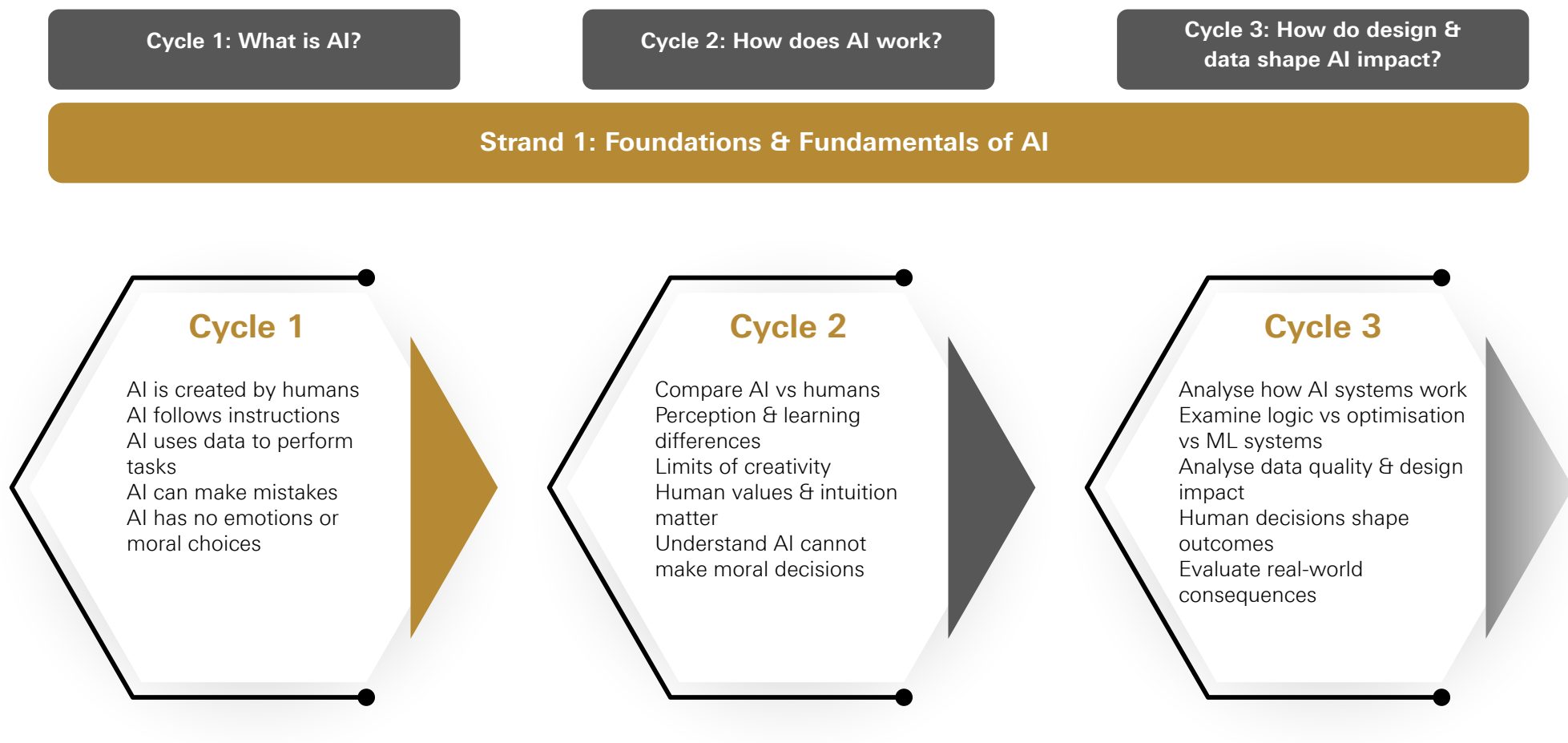


Figure 4: Progression of Strand 1: Foundations and Fundamentals of AI Across Cycles 1–3

Cycle 1: What is AI?

Cycle 2: How does AI work?

Cycle 3: How do design & data shape AI impact?

Strand 2: Data, Algorithms & Machine Learning

Cycle 1

- Pattern recognition from examples
- Simple “if-then” rules
- Good vs bad data
- Recognises good vs bad data
- Understands more data improves learning

Cycle 2

- Algorithms & training (labelled/unlabelled)
- Neural networks: input-hidden-output
- Deep learning applications
- Model evaluation: accuracy, precision, recall
- Bias & missing data; test on new data

Cycle 3

- Analyse dataset size/ balance/completeness
- Analyse how probability shape AI decisions
- Examine how NN design affects system performance
- Evaluate optimisation trade-offs
- Analyse emotion/behaviour modelling + implications

Figure 5: Progression of Strand 2: Data, Algorithms & Machine Learning Across Cycles 1–3

2.3.2 Domain 2: Responsible and Ethical AI

The Responsible and Ethical AI domain aligns most strongly with Learn for AI, emphasising the human skills, values, and responsibilities required to guide AI development and use.

Learning outcomes in this domain enable students to:

- Understand that humans are accountable for AI decisions and outcomes
- Examine trust, bias, fairness, privacy, safety, explainability, accountability, and data governance
- Analyse ethical trade-offs, cultural values, and societal impacts of AI systems
- Apply responsible AI principles when evaluating or designing AI-supported solutions

This domain ensures that students not only know how AI works, but also take responsibility for how they are designed and used, reinforcing the principle that ethical judgement, governance, and value-based decision-making remain human responsibilities.

2.3.2.1 Strands

The domain is organised into clearly defined strands that structure key ethical and regulatory dimensions of AI, with aligned standards that guide the progressive deepening of ethical understanding and accountability across grade levels. It includes two strands—Ethics, Bias, and Fairness in AI, which focuses on safe and fair AI use, human oversight, and societal impact; and AI Policies and Accountability, which explores governance, privacy and rights, human control, and the evaluation of responsible AI systems.

Strand 3: Ethics, Bias, and Fairness in AI

Within this strand, students identify safe and fair ways to use AI and recognise situations where human judgement is required rather than relying solely on AI outputs. They develop awareness that AI-generated or manipulated media may introduce safety and security concerns. Students examine how ethics, cultural values, and inclusion guide AI decision-making, and analyse how AI systems can influence human expression, behaviour, and creativity, considering how bias and design choices shape AI outputs. Building on this understanding, students evaluate when AI outputs can be trusted and explore how AI systems can be enhanced to align with societal expectations, demonstrating the ability to critically assess AI systems by balancing technical capability with fairness, cultural sensitivity, and ethical responsibility.

Strand 4: AI Policies and Accountability

Within this strand, students identify ways in which humans control AI systems to ensure fairness and protect personal information. They develop an understanding of how AI impacts privacy, accountability, and personal rights, and why safeguards are required. Students examine how AI is governed through policies, rules, and regulations that support responsible use, and analyse how accountability is maintained in real-world contexts. Building on this understanding, students evaluate AI systems against governance frameworks and assess the effectiveness of oversight approaches in ensuring responsible and trustworthy AI, critically examining the role of policy and regulation in guiding ethical AI deployment.

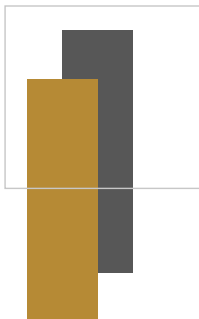


2.3.2.2 Standards and Standards Description

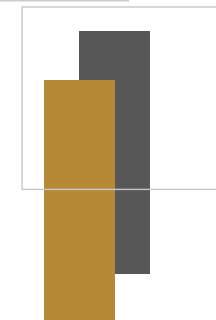
Table 3: AI Literacy Standards by Domain, Strand, and Cycle

Domain	Strand	Cycle	Standards	Standard Description
Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Cycle 1	Identify safe and fair ways to use AI.	The student demonstrates an understanding of safe and fair ways to use artificial intelligence by explaining safe actions when using digital tools and showing fair behaviour when sharing technology with others. The student recognises that people help AI learn what is fair, identifies when a computer or robot makes fair or unfair choices, and explains that AI can make unfair decisions when it learns from limited examples. The student describes what bias means in AI, explains how providing more complete and diverse examples can improve fairness, and recognises that people, not AI, are responsible for deciding what is ethical and fair, with guidance as needed.
		Cycle 1	Evaluate when AI outputs can be trusted and when human judgement is required.	The student demonstrates an understanding of when artificial intelligence outputs can be trusted and when human judgement is required by discussing situations where people need to review or correct AI outputs. The student explains that relying on AI without human judgement can lead to mistakes or unfair decisions and describes safe ways to use AI tools by checking results before accepting them, with guidance as needed.

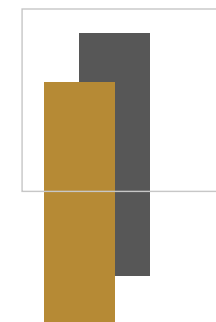
Domain	Strand	Cycle	Standards	Standard Description
Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Cycle 2	Explain how ethics, cultural values, and inclusion guide AI decision making.	The student demonstrates an understanding of how ethics, cultural values, and inclusion guide artificial intelligence decision making by identifying examples of bias caused by unbalanced or unfair data and explaining how improving data quality and diversity can reduce biased AI outputs. The student examines how cultural values influence the use of AI systems and discusses issues that arise when AI ignores culture and values. The student explains what makes an AI decision ethical or unethical, differentiates between accuracy and fairness, and analyses real-world cases where biased or incomplete data led to unethical outcomes. The student also identifies ways AI systems can unintentionally discriminate and describes protections that help prevent discrimination, including the role of diversity and inclusion in reducing bias, with guidance as needed.
		Cycle 2	Explain how AI manipulates or creates media that may cause safety and security concerns.	The student demonstrates an understanding of how artificial intelligence can create or manipulate media that raises safety and security concerns by identifying the difference between real and AI-generated content and explaining how AI can generate false text, images, audio, or videos. The student describes how AI tools can alter or misrepresent information and how such technologies can spread fake or misleading content, including deepfakes. The student examines the risks associated with AI-based media manipulation, explains how AI can both detect online threats and introduce new safety and privacy risks, and identifies ways to detect AI-generated or manipulated media. The student also discusses safe and responsible practices when encountering AI generated content and evaluates the ethical and societal impacts of AI-generated media, with guidance as needed.



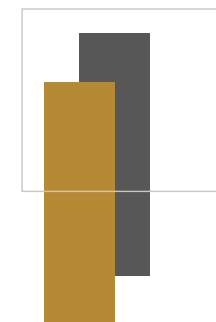
Domain	Strand	Cycle	Standards	Standard Description
Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Cycle 3	Enhance AI systems to align with societal expectations.	The student demonstrates the ability to analyse and enhance AI systems to align with societal expectations by examining how human values, cultural norms, and ethical principles are reflected in AI data, design, and use. This includes analysing situations where AI decisions may conflict with cultural or national values; evaluating the role of human judgement when AI outputs challenge ethical expectations; and assessing how AI systems influence values such as justice, responsibility, peace, and social well-being. The student analyses issues of fairness, bias, accessibility, accountability, and trust through real-world cases; evaluates strategies for responsible and inclusive AI design; and compares international ethical AI principles with UAE values and national AI guidelines. The student applies critical thinking and moral reasoning to assess AI-generated outputs, identifies risks and unintended consequences, and recommends design improvements that promote fairness, inclusivity, trustworthiness, and responsible human–AI interaction.
		Cycle 3	Examine how AI affects human expression, behaviour, and creativity.	The student demonstrates an understanding of how artificial intelligence affects human expression, behaviour, and creativity by examining how AI-generated responses can influence user opinions, judgements, and decisions, including how language choices, framing, and recommendations provided by AI shape human thinking and actions. The student analyses how AI-generated content such as text, images, or code influences creativity and originality by exploring how people use AI to generate, modify, or refine ideas, comparing AI-assisted and human-created outputs, and assessing how reliance on AI can both support and constrain creative expression in academic and real-world contexts.



Domain	Strand	Cycle	Standards	Standard Description
Responsible and Ethical AI	AI Policies and Accountability	Cycle 1	Identify ways humans control AI to ensure fairness and protect personal information.	The student demonstrates an understanding that humans control how AI systems work by recognising that people give instructions, set rules, and are responsible for AI decisions. The student identifies that machines cannot decide on their own, explains the importance of clear and fair rules, and demonstrates safe choices when using AI and digital tools. The student also recognises personal information that should be kept private and explains how humans work with AI while remaining in charge, with teacher guidance.
		Cycle 2	Identify how AI impacts privacy, accountability, and the protection of personal rights.	The student demonstrates an understanding of how artificial intelligence impacts privacy, accountability, and the protection of personal rights by explaining how AI systems learn from personal data, recognising the risks of sharing personal information, and explaining why rules and regulations are needed to guide AI behaviour. The student identifies human responsibility for AI decisions and outcomes, examines the use of AI in law enforcement and courts, analyses associated benefits and risks, and explains the importance of explainability and accountability when AI systems make complex or hard-to-interpret decisions, with guidance as needed.
		Cycle 2	Examine how AI is governed through national policies.	The student demonstrates an understanding of how artificial intelligence is governed through national policies by recognising differences in how countries regulate and use AI, explaining the role of UAE governance in promoting ethical and responsible AI use, and describing how global organisations, governments, and companies shape the development and regulation of AI, with guidance as needed.



Domain	Strand	Cycle	Standards	Standard Description
Responsible and Ethical AI	AI Policies and Accountability	Cycle 3	Evaluate the effectiveness of AI governance in ensuring responsible and trustworthy use of AI systems.	The student demonstrates an understanding of how AI governance ensures responsible and trustworthy use of AI systems by examining how rules and regulations are established within national and international governance frameworks and how these rules guide the development and deployment of AI. The student analyses how AI systems are monitored through auditing practices, data governance measures, and explainability requirements to support accountability and protect personal data. Through the examination of real-world and simulated cases, the student explores how explainability methods are applied in advanced AI models, evaluates trade-offs between system performance and interpretability, and assesses the risks that arise when data governance or data protection safeguards are weak. The student evaluates the role of AI auditing, transparency, and human responsibility in reducing public risk and ensuring that AI systems operate in a trustworthy, accountable, and socially responsible manner.
		Cycle 3	Evaluate responsible AI use against AI governance frameworks.	The student demonstrates an understanding of how artificial intelligence is governed by examining how rules, policies, and ethical principles guide the responsible use of AI. This includes applying criteria such as fairness, transparency, and data protection to evaluate AI use cases; analysing how AI supports better government decision-making and efficient use of public resources; and explaining how different countries regulate AI based on their national priorities. The student compares national and international approaches to AI governance, designs simple guidelines for responsible AI use, and evaluates how developing AI knowledge and skills supports future learning and career opportunities.



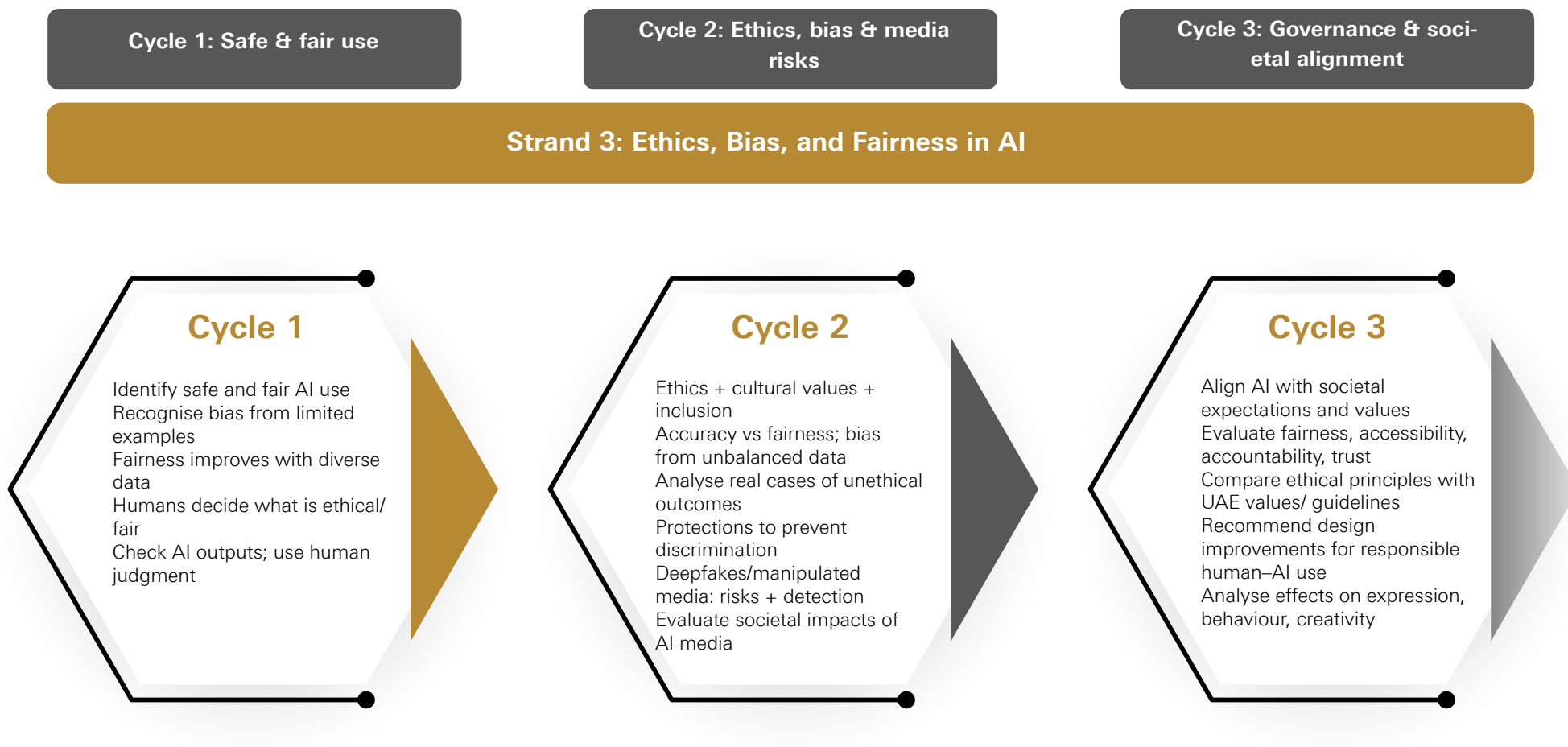


Figure 6: *Progression of Strand 3: Ethics, Bias and Fairness Across Cycles 1–3*

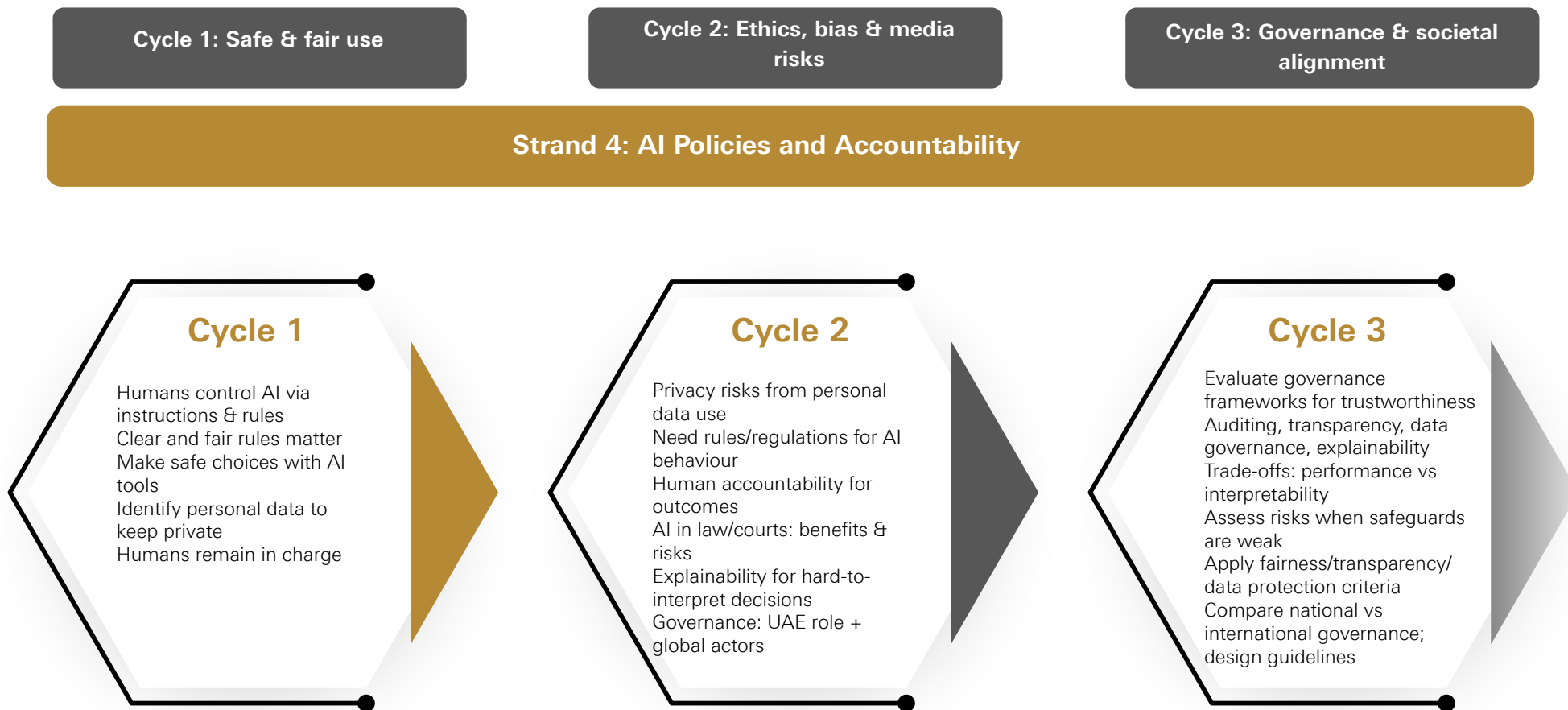


Figure 7: Progression of Strand 4: AI Policies and Accountability

2.3.3 Domain 3: AI Applications, Innovation, and Practice

The AI Applications, Innovation, and Practice domain aligns primarily with Learn with AI, where students apply AI tools to solve problems, support learning, and create solutions across real-world contexts.

Learning outcomes in this domain focus on:

- Using AI tools for learning, communication, research, productivity, creativity, and decision support
- Designing, prototyping, evaluating, and refining AI-based solutions to real-world and UAE-relevant challenges
- Applying design thinking, project management, teamwork, and interdisciplinary collaboration
- Investigating how AI is used across sectors such as healthcare, transportation, education, government, sustainability, and security

Through this domain, students develop the practical competence to work effectively with AI systems, while maintaining human oversight, ethical awareness, and critical thinking.

2.3.3.1 Strands

The domain is organised into clearly defined strands that structure application contexts, tool usage, and project design, with aligned standards that guide the progressive deepening of skills and understanding across grade levels. It includes three strands—AI Applications in Society and Industry, which examines how AI is used across sectors and its broader impact; Usage of AI Tools, which focuses on effective prompting, tool evaluation, and responsible use in real-world tasks; and Innovation and Projects Design, which develops students' ability to design AI projects and solutions that address real-world problems through systematic design processes.

Strand 5: AI Applications in Society and Industry

Within this strand, students identify everyday uses of AI across different sectors, building awareness of how AI systems support activities in areas such as healthcare, transportation, education, government, sustainability, and security. They analyse how AI is applied across different sectors and examine the role of AI in human–AI collaboration, exploring how AI supports sustainability, humanitarian efforts, and social impact while evaluating the broader implications of its use. Building on this understanding, students evaluate the effectiveness of AI in addressing global challenges, including humanitarian and environmental applications, and assess its influence on economic development and social change, critically examining AI's role in shaping societies and industries.

Strand 6: Usage of AI Tools

Within this strand, students use generative AI models to create new content, developing familiarity with AI-assisted creation. They apply effective prompting strategies to guide AI outputs and improve relevance and accuracy. Students evaluate different AI tools in terms of accuracy, accessibility, strengths, and limitations, developing informed judgement about tool selection and use. As their skills develop, students apply AI tools to enhance work effectiveness in real-world contexts, demonstrating purposeful and reflective use of AI technologies.

Strand 7: Innovation and Projects Design

Within this strand, students design AI projects that support humans in everyday tasks, focusing on practical assistance and usability. They then design AI projects that address real-world problems or challenges, applying structured thinking to problem identification and solution development. As their skills develop, students design AI solutions for complex real-world problems using systematic design processes, reflecting increasing sophistication in planning, design, and solution development, as they integrate multiple considerations to create AI-based innovations.

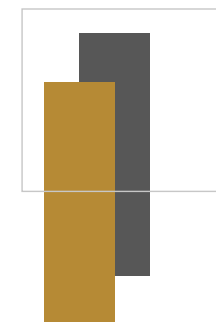


2.3.3.2. Standards and Standards Description

Table 4 : *AI Literacy Standards by Domain, Strand, and Cycle*

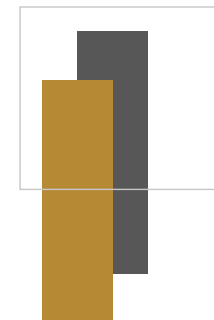
Domain	Strand	Cycle	Standards	Standard Description
AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Cycle 1	Identify everyday uses of AI across different sectors.	The student demonstrates a basic understanding that artificial intelligence is used in everyday tools and services across different settings, such as home, school, and the community, and can identify simple examples of how AI helps people perform tasks, with guidance from the teacher.
		Cycle 2	Analyse how AI is applied across different sectors.	The student demonstrates an understanding of how artificial intelligence is applied across different sectors by describing and analysing how AI improves real-world systems such as transportation, healthcare, education, public safety, environmental protection, and government services, and how AI strategies and automation influence productivity, wellbeing, and future development.
		Cycle 2	Evaluate how AI addresses global challenges by promoting sustainability, humanitarian aid, and social impact.	The student demonstrates an understanding of how artificial intelligence can address global and community challenges by identifying, explaining, evaluating, and analysing how AI supports sustainability, humanitarian aid, safety, disaster response, and social impact, including its environmental effects and contribution to building smarter and more sustainable societies.
		Cycle 3	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	The student demonstrates an understanding of the implications of artificial intelligence in human–AI collaboration by analysing how AI systems are used across different sectors to support decision-making, automation, and prediction, including healthcare, scientific research, cybersecurity, public services, digital media, and public safety, and by evaluating how shared human–AI roles influence efficiency, safety, accountability, ethical decision-making, cultural expression, and societal outcomes in both public and private sector contexts.

Domain	Strand	Cycle	Standards	Standard Description
AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Cycle 3	Evaluate the influence of AI on economic development and social change.	The student demonstrates an understanding of the influence of artificial intelligence on economic development and social change by analysing how AI-driven systems transform infrastructure such as transport, utilities, and logistics; reshape labour markets and job roles through automation; and create new demands for workforce readiness, upskilling, and lifelong learning. This includes examining how AI adoption supports productivity, efficiency, and innovation, with a particular focus on its impact within key UAE sectors such as energy and government services, and how these changes affect economic growth, employment patterns, and social development.
		Cycle 3	Evaluate the effectiveness of AI in addressing global challenges through humanitarian and environmental applications.	The student demonstrates the ability to critically evaluate the effectiveness of artificial intelligence in addressing global challenges by analysing how AI systems are applied in humanitarian contexts such as disaster preparedness and response, crisis management, and public health initiatives, and by explaining how AI supports environmental analysis through monitoring, modelling, and predictive tools. This includes evaluating the impact, limitations, and reliability of AI-based solutions for global problem-solving, and assessing how these technologies contribute to sustainability, resilience, and informed decision-making in efforts to address complex humanitarian and environmental challenges.
	Usage of AI Tools	Cycle 2	Use generative AI models to create new content.	The student demonstrates an understanding of how generative AI models create new content by recognising that these systems learn patterns from existing data. The student uses a generative AI tool to produce content and compares multiple AI-generated outputs to identify patterns, similarities, and differences, with guidance as needed.



Domain	Strand	Cycle	Standards	Standard Description
AI Applications, Innovation, and Practice	Usage of AI Tools	Cycle 3	Evaluate different AI tools in terms of accuracy, accessibility, strengths and limitations	The student demonstrates the ability to evaluate different AI tools by comparing their use in academic and real-world tasks, including tools developed in the UAE. This includes assessing the accuracy, accessibility, and reliability of AI-generated outputs, as well as analysing the strengths, limitations, and appropriate use cases of different AI tools. The student applies evaluation criteria to determine how tool capabilities and constraints influence effectiveness, trustworthiness, and suitability for specific learning, professional, and real-world contexts.
		Cycle 3	Use AI tools to enhance work effectiveness in real-world contexts.	The student demonstrates the ability to use AI tools to enhance work effectiveness in real-world contexts by applying AI to support personal communication style, strengthen leadership skills, and manage tasks related to planning, organisation, productivity, and collaboration. This includes using AI responsibly to improve efficiency and clarity while identifying strategies to maintain originality, human judgement, and personal voice when working with AI-supported tools in professional and everyday settings.
		Cycle 3	Apply effective prompting strategies when using AI tools.	The student demonstrates the ability to apply effective prompting strategies when using AI tools by identifying the core capabilities and limitations of large language models, and by writing and refining prompts to support academic tasks such as research, reading comprehension, and study strategies. This includes modifying prompts to improve accuracy, relevance, and safety of AI outputs, and applying responsible prompting practices to reduce academic risks such as misinformation, bias, and over-reliance on AI.
	Innovation and Projects Design	Cycle 1	Design AI projects that support humans in everyday tasks.	The student designs simple AI-based ideas that support humans in everyday tasks by identifying basic problems, working collaboratively, creating simple models or drawings, and improving ideas through guided feedback.

Domain	Strand	Cycle	Standards	Standard Description
AI Applications, Innovation, and Practice	Innovation and Projects Design	Cycle 2	Design AI projects that address real-world problems or challenges.	The student designs AI projects to address real-world problems by researching needs, defining requirements, developing and testing solutions, evaluating fairness and usefulness, and refining designs through feedback and reflection.
		Cycle 3	Design AI solutions that address complex real-world problems using systematic design processes.	The student designs AI solutions to address complex real-world problems by applying systematic and iterative design processes that include problem investigation, research, planning, prototyping, evaluation, and refinement. This involves analysing real-world data and existing AI solutions; defining functional, technical, and ethical requirements; using project-management and design-thinking methods; and developing AI prototypes using rule-based logic, large language models, or AI platforms. The student evaluates solutions against performance, fairness, privacy, explainability, and societal impact criteria, refines designs based on evidence and feedback, and communicates outcomes through structured documentation and presentations aligned with UAE values, initiatives, and future workforce needs.



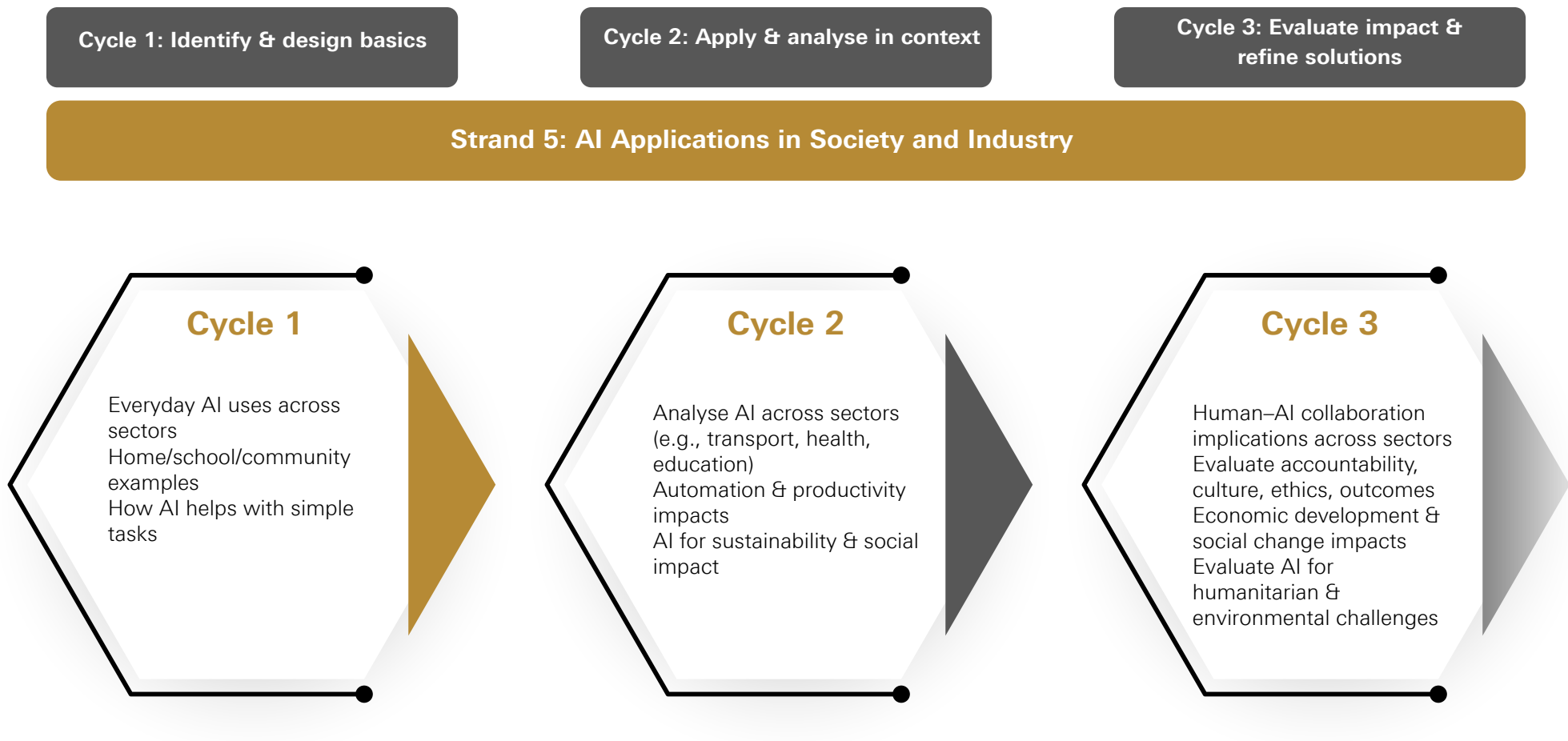


Figure 8: *Progression of Strand 5: AI Applications in Society and Industry Across Cycles 1–3*

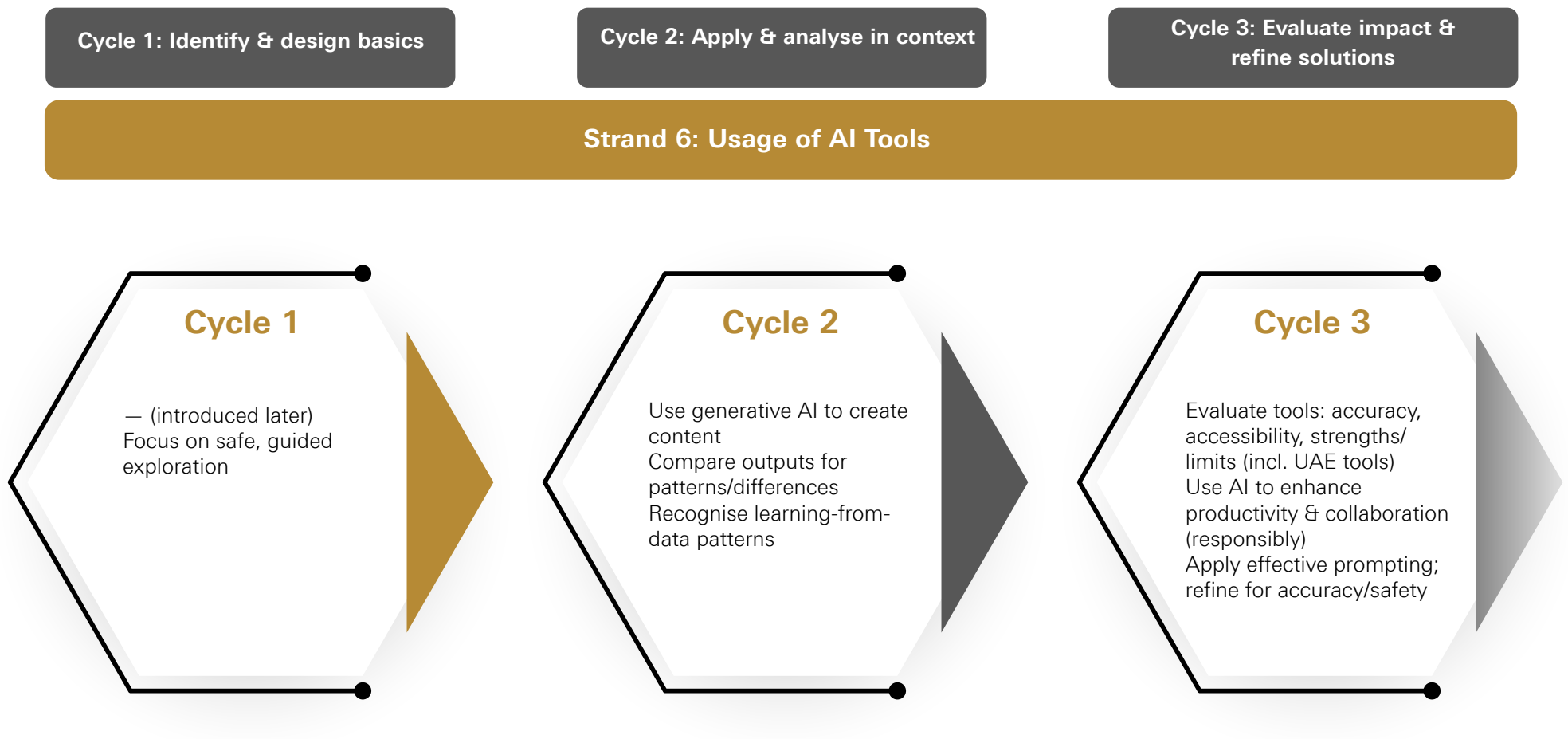


Figure 9: *Progression of Strand 6: Usage of AI Tools Across Cycles 1–3*

Cycle 1: Identify & design basics

Cycle 2: Apply & analyse in context

Cycle 3: Evaluate impact &
refine solutions

Strand V: Innovation and Projects Design

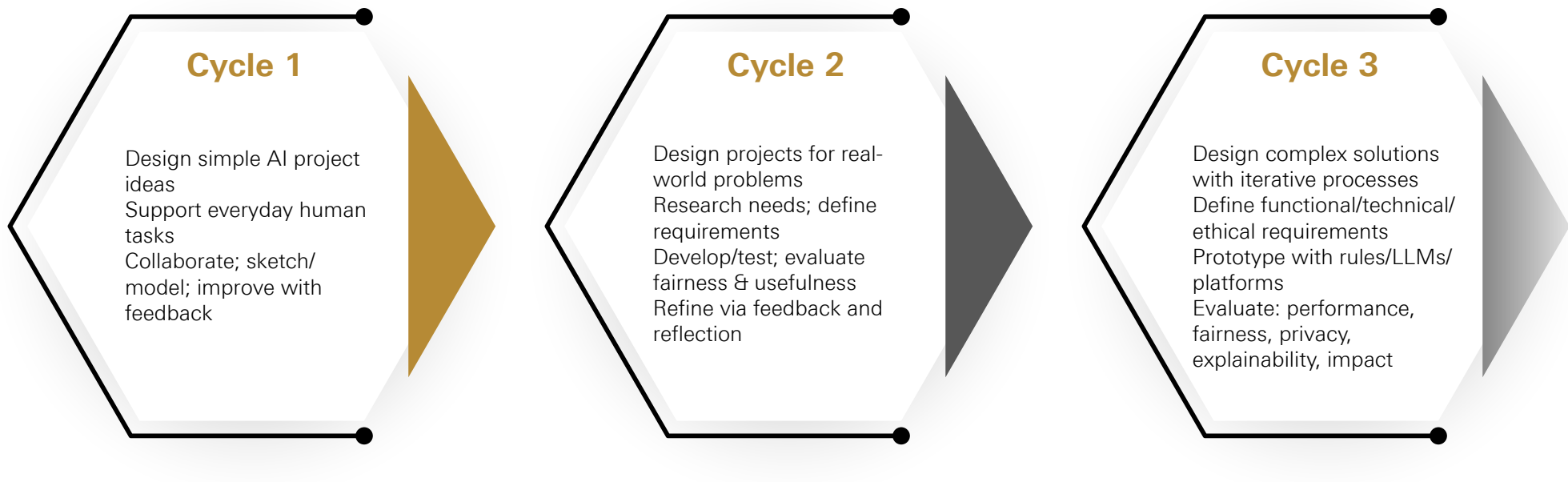


Figure 10: *Progression of Strand 7: Innovation and Projects Design Across Cycles 1–3*

2.3.4 Progressive levels of AI learning

This AI Literacy curriculum framework is structured around three progressive levels of AI learning: Learn AI, Learn for AI, and Learn with AI. These levels define how students’ understanding and use of artificial intelligence develop over time, from foundational knowledge to responsible design and governance, to meaningful application in real-world contexts.

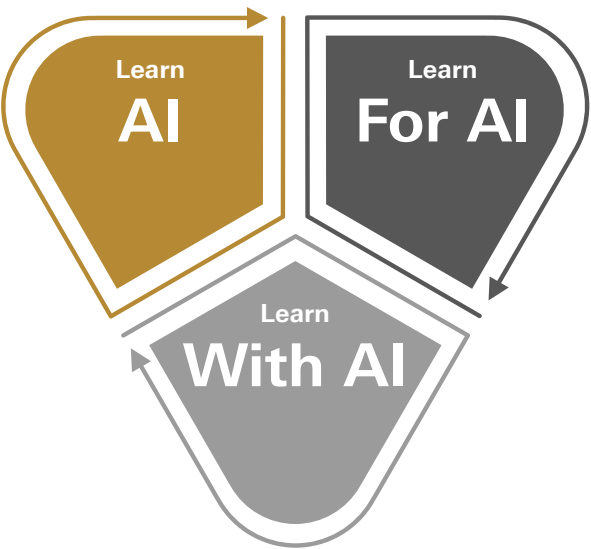


Figure 11: *Progressive Levels of AI Learning*

The framework’s three curriculum domains are deliberately aligned to these levels to ensure conceptual clarity, developmental progression, and coherence across grade bands.

Table 5: *Progressive Levels of AI Learning*

AI Literacy Domain	AI Learning Level	Definition
AI Foundations and Core Principles	Learn AI	Understanding how AI systems work, how they use data and rules, and how they differ from humans.
Responsible and Ethical AI	Learn for AI	Developing human responsibility, ethics, and judgement to guide fair and safe AI use.
AI Applications, Innovation, and Practice	Learn with AI	Using AI tools to support learning, problem-solving, and real-world innovation.

3. Guidelines for Teachers

Teaching AI requires integrating conceptual knowledge, ethical reasoning, and applied problem-solving across disciplines. Teachers guide students in understanding how AI systems function, how human decisions shape outcomes, and how AI should be designed and used responsibly.

3.1 Knowledge of Core Content and Competencies

Teachers demonstrate knowledge and competencies aligned with the three AI Literacy domains. Within this expectation, professional practice is guided by principle-driven requirements that are non-negotiable, alongside context-responsive elements that allow pedagogical flexibility.

Principle-Driven Guidelines:

Grounded in the principles of conceptual accuracy, ethical integrity, student protection, regulatory compliance, and human oversight, teachers shall:

- Explain fundamental AI concepts and principles accurately, including how AI systems use data, algorithms, and models to process information and generate outputs.
- Demonstrate sound understanding of how AI systems are designed, trained, evaluated, and improved, ensuring explanations do not create misconceptions.
- Analyse how data quality, human decisions, and system design influence AI performance and outcomes, explicitly addressing bias, representation, and system limitations.
- Apply and embed principles of responsible and ethical AI — fairness, safety, privacy, accountability, transparency, and governance — as integral components of all instruction.
- Facilitate inquiry and design processes that promote responsible problem identification, critical evaluation of AI-supported solutions, and consideration of societal impact.
- Reinforce the role of human oversight and judgement through critical comparison between AI systems and human capabilities.
- Model responsible, transparent, and policy-compliant use of AI tools in teaching and assessment, including disclosure where AI tools are used in preparation or feedback.
- Maintain up-to-date, evidence-informed knowledge of AI developments, applications, and national and global AI governance frameworks.

Context-Responsive Guidelines

Within the boundaries above, teachers may adapt:

- The selection of AI tools, platforms, or simulations used to illustrate concepts, provided compliance and safety requirements are upheld.
- The depth of technical explanation according to grade level and student readiness.
- Pedagogical approaches used to support inquiry and design (e.g., project-based learning, structured discussions, case analyses, interdisciplinary integration).
- The assessment approaches and evidence of learning used to evaluate student progress, provided they remain aligned with the stated Learning Outcomes and comply with institutional assessment policies.

3.2 Teacher Qualifications and Professional Expertise

Effective implementation of the AI Literacy Curriculum depends on teachers possessing the professional qualifications, subject knowledge, pedagogical expertise, and ethical understanding required to deliver high-quality AI education. Schools implementing this Framework should ensure that teachers meet the following minimum professional expectations.

Table 6: *Teacher Qualifications and Professional Expertise*

Area	Expectation
Teaching Qualification	Hold a recognised teaching qualification and any teaching licence required by the relevant national regulatory authority.
Subject Competency and Qualification	Possess sufficient knowledge of Artificial Intelligence, Computing, Digital Technologies, Computer Science, Information Technology, or a related field, demonstrated through relevant academic qualifications, recognised professional learning, or relevant teaching experience. Examples of relevant academic qualifications include a bachelor's degree or higher in Artificial Intelligence, Computer Science, Information Technology, Digital Technologies, Computer/Electrical Engineering, or a closely related discipline.
Pedagogical Competency	Demonstrate the ability to design and facilitate age-appropriate, inquiry-based, project-based, and interdisciplinary learning experiences that develop AI literacy while focusing on critical thinking, creativity, collaboration, communication, and problem-solving.
Responsible Professional Practice	Apply principles of responsible AI, including fairness, safety, privacy, transparency, accountability, and human oversight, while complying with institutional and national policies governing AI use, data protection, cybersecurity, and academic integrity.

Experts and specialists responsible for developing curriculum, instructional resources, assessment materials, or professional learning aligned with this Framework should possess expertise in curriculum design, AI literacy education, learning progression, assessment design, and educational technology. They should be able to translate developments in Artificial Intelligence into developmentally appropriate learning experiences while ensuring alignment with national priorities, cultural values, ethical principles, and internationally recognised educational standards.

3.3 Professional Learning

Professional learning enables teachers to strengthen their knowledge, skills, and instructional practices in Artificial Intelligence education. As AI technologies evolve rapidly, teachers must continuously update their professional knowledge to ensure learning remains relevant, and aligned with national priorities.

It also supports teachers in translating framework expectations into effective classroom delivery across all cycles, with a focus on conceptual accuracy, applied pedagogy, assessment reliability, ethical AI practices, and safe AI use. In the UAE context, professional learning should prepare teachers to understand and model responsible AI use in line with national values, policies, and priorities, so they can guide students to use AI ethically, safely, and appropriately.

Professional learning should also equip teachers with innovative and age-appropriate methods for teaching AI across different grade levels. This includes adapting teaching strategies to students' developmental stages, using practical and inquiry-based activities, and applying real-world examples that make AI concepts accessible and meaningful. The goal of professional learning should extend beyond awareness-building to demonstrated classroom readiness and effective implementation.

Professional learning may occur through training programs, collaborative planning, professional learning communities, and engagement with emerging research and practices in AI education. Effective professional learning supports improved teaching practices and enhances students' learning experiences in AI literacy.

Professional Learning Domains

The Professional Learning Domains provide guidance for teachers and school leaders to evaluate professional practice and identify opportunities for growth in Artificial Intelligence education. These domains support teachers in strengthening their pedagogical practices and ensuring that AI learning experiences remain responsible, relevant, and aligned with national educational priorities.

The domains are organised into three key areas:

- Professional Values and Attributes
- Professional Knowledge and Understanding
- Professional Skills and Practice



Professional Values and Attributes

Professional values and attributes guide teachers in creating inclusive, ethical, and supportive learning environments for AI education.

Student-Centred Learning

Professional learning should enable teachers to:

- Understand students' interests and learning needs.
- Design learning experiences that encourage participation and inquiry.
- Build respectful relationships with students.
- Promote fairness, inclusion, and a safe learning environment.

Learning Leadership

Professional learning should enable teachers to:

- Encourage curiosity and critical thinking.
- Promote collaboration and shared learning.
- Support students in taking ownership of their learning.
- Encourage responsible and ethical thinking about technology.

Continuous Professional Improvement

Professional learning should enable teachers to:

- Reflect on their teaching practices.
- Collaborate with colleagues to improve learning experiences.
- Identify and pursue relevant professional learning opportunities.
- Stay informed about emerging technologies and teaching approaches.

Professional Knowledge and Understanding

Professional knowledge includes understanding curriculum content, learning approaches, and the responsible use of AI technologies in education.

National and Societal Context

Professional learning should enable teachers to:

- Understand national priorities related to artificial intelligence, innovation and digital transformation.
- Recognise how AI technologies influence society, industry, and future employment.
- Follow national policies and guidelines related to responsible technology use.

Learning, Teaching, and Assessment

Professional learning should enable teachers to:

- Understand the AI Literacy scope and expected learning progression by cycle.
- Apply teaching strategies that support inquiry, critical thinking, and problem-solving.
- Design learning experiences that encourage creativity and student engagement.
- Use assessment to monitor student learning and support progress.
- Integrate digital technologies appropriately to enhance teaching and learning.

Technologies and Resources

Professional learning should enable teachers to:

- Use digital tools and AI technologies effectively to support learning.
- Stay informed about relevant technological developments in education.
- Promote safe and responsible use of digital tools and learning technologies in the classroom.

Professional Skills and Practice

Professional skills refer to teachers' ability to apply knowledge effectively in teaching and learning.

Professional learning should enable teachers to:

- Design and deliver lessons that support understanding of AI concepts and applications.
- Facilitate inquiry, collaboration, and problem-solving activities.
- Guide students in applying AI concepts to real-world contexts.
- Provide feedback that supports student progress.
- Model responsible and ethical use of digital technologies in classroom practice.

3.4 Curriculum Components and Documents

The Framework must be supported by structured curriculum components that ensure coherence, progression, and alignment with the three domains. These components must provide clarity for teachers while allowing flexibility to contextualise learning.

Instructional Material

Instructional materials may be developed to provide structured lesson content that translates the framework's domains, standards, and learning outcomes into classroom practice. They support conceptual understanding, ethical reasoning, and applied learning across grade levels.

Instructional materials shall be supported through aligned professional learning that trains teachers on concept explanations, and common misconceptions. Additionally, teacher-facing supports shall be used within training to ensure consistent classroom application.

Instructional materials are:

- Aligned directly with the relevant domains, strands, standards, and learning outcomes of the Framework.
- Designed to present accurate and developmentally appropriate explanations of AI concepts, systems, and applications.
- Developed with examples, case studies, and scenarios that reflect real-world AI use across sectors.
- Structured to embed responsible and ethical AI considerations within technical learning.
- Developed to include structured project-based tasks that enable students to apply AI concepts in authentic contexts, design solutions to real-world problems, evaluate outcomes, and reflect on technical, ethical, and societal implications of their work.
- Inclusive of structured learning activities that promote inquiry, discussion, analysis, and design.
- Designed to encourage teachers to extend learning through additional contexts, current examples, and interdisciplinary connections to maintain relevance in a rapidly evolving field.

Principle-Driven Guidelines

Grounded in the principles of accuracy, ethical integrity, developmental appropriateness, and compliance:

- Instructional materials must remain fully aligned with approved standards and Learning Outcomes.
- Core AI concepts must be represented accurately and without oversimplification that creates misconceptions.
- Ethical principles — fairness, privacy, safety, accountability, transparency, and governance — must be integrated into technical content.
- Materials must not require students to input personal or sensitive data into external AI systems.
- Any AI tools referenced must comply with institutional and national policies.
- Instructional materials must be appropriately contextualised, ensuring age-appropriate delivery and relevance to the UAE context where applicable.

Context-Responsive Guidelines

Within these boundaries, teachers may adapt:

- The selection of case studies or sector examples used to illustrate AI concepts.
- Supplementary materials that reflect emerging AI developments.
- The format of classroom activities (e.g., group work, discussions , design tasks).
- The depth of exploration based on student readiness and available instructional time.

Curriculum Implementation Guides

To support consistent implementation of the Framework, it is recommended that curriculum implementation guides be developed alongside the instructional materials. These guides should provide a coherent, lesson-by-lesson structure that translates the Framework's standards and Learning Outcomes into classroom practice.

The guides shall be used as a core anchor for professional learning, ensuring teachers are trained on lesson sequencing, delivery routines, and safe-use considerations embedded within the guides.

Each lesson within the guides includes:

- Learning Outcomes (LOs): Clearly defined learning outcomes aligned with the framework standards. These outcomes represent the expected level of mastery and guide both instruction and assessment.
- Teaching Guidance: A structured overview of how the lesson can be delivered within the allocated study time, outlining suggested sequencing, key concepts, and pedagogical approaches.
- Integration References: Explicit connections to the instructional materials and any supplementary resources required for effective delivery.
- Activity Support: Suggested activities, discussion prompts, and guidance for facilitating inquiry or practical tasks.
- Technical and Ethical Notes: Clarifications, definitions, and practical considerations necessary for accurate explanation of AI systems and responsible use.

Principle-Driven Guidelines

Grounded in the principles of accuracy, ethical integrity, developmental appropriateness, and compliance:

- All Learning Outcomes within the guides must be addressed within the instructional cycle.
- The conceptual progression outlined in the guides must be preserved to maintain developmental continuity across grade levels.
- Technical and Ethical Notes must be accurately conveyed to ensure responsible and safe AI instruction.
- Teachers must implement AI tool usage in alignment with data-protection and cybersecurity requirements.
- Assessment practices linked to the guides must ensure academic integrity and transparency regarding AI use.

Context-Responsive Guidelines

Within the established structure, teachers may adapt:

- Lesson pacing based on classroom dynamics and student needs.
- Sequencing of selected activities within a lesson, provided Learning Outcomes are achieved.
- Instructional strategies used to deliver lesson content.
- Examples used to illustrate AI applications or policy frameworks.

4. Assessment of the AI Literacy Curriculum Overview

The AI Literacy curriculum is assessed through school-based assessments prepared by class teachers. Assessment of AI Literacy checks how well students understand artificial intelligence, how responsibly they can use AI tools, and how they consider the social, ethical, and technical impacts of AI.

Assessment should focus on:

- Understanding ideas rather than memorising facts
- Thinking critically rather than simply following steps
- Considering ethics, safety and responsibility, not just technical skills
- Applying knowledge and reflecting on learning rather than just recalling information

4.1 Assessment Methods

A combination of formative and summative assessments can be used to evaluate students.

- Ongoing assessment (Assessment for Learning/AfL) checks how students are learning and progressing during the term. These can be either graded or non-graded.
- End-of-unit assessment (Assessment of Learning/AoL) measures how well students understand and use AI at the end of the unit.

Additionally, AI Literacy equips students with the knowledge, skills, and critical thinking abilities needed to succeed in international AI-focused assessments, particularly the PISA 2029 Media and Artificial Intelligence Literacy (MAIL) test.

Examples of Assessment for Learning (AfL) in AI Literacy include:

- AI Bias: Short class activities where students spot bias in AI-generated images, audio, video or text.
- Peer Review of AI Tools: Students work in groups to test AI tools, check how accurate they are, and give feedback to each other.
- Quizzes or Verbal Questions: Quick checks to make sure students understand basic AI ideas (such as machine learning and algorithms) before moving on.
- Prompt Engineering Checks (Cycle 3): Students share their prompts during the lesson and receive feedback on how to improve them for better results.

Examples of Assessment of Learning (AoL) in AI Literacy include:

- Final Project Portfolio: Students complete a project (like a prototype or chatbot to show what they've learned about AI and its ethical use.
- Performance-Based Tasks: Practical tests where students solve a problem using AI, showing they can choose and use the right tool.
- Demonstrations: A final presentation or demonstration of how they used, evaluated, or created AI tools.
- Ethical Case Studies (Cycle 3): A final assignment or essay where students analyse ethical issues in AI, like algorithm bias or data privacy.

Differentiation and Inclusion for Mixed Ability Classrooms

Assessment should ensure accessibility and accommodate for diverse students through:

- Choice of format: Students can respond in writing, speaking, drawing, or using multimedia.
- Tasks at different levels: Activities with varying difficulty to match students' abilities.
- Guided support: Templates or step-by-step help for those who need it.
- Challenges for advanced students: Extra opportunities for students who are ready to go further.

*Additional support can be requested from the SEN specialist in schools.

Table 7: Assessment & Domain Summary Across Cycles

Assessment & Domain Summary Across Cycles			
	Grades K–4 (Foundation)	Grades 5–8 (Intermediate)	Grades 9–12 (Advanced)
Domains	• AI Foundations and Core Principles • Responsible and Ethical AI • AI Applications, Innovation, and Practice		
Assessment Types	• Hands-on projects • Drawings and simple design tasks • Reflection discussions • Short presentations	• Applied design projects • Case studies and scenario analysis • Portfolios including reflections • Oral or multimedia presentations	• Performance-based projects • Real-world problem solving • Extended portfolios and reflective documentation • Research investigations and ethical analysis • Applied tasks integrating AI tools

Summary

Students should work on real-world tasks that show how AI is used in everyday life, in society, and in different industries.

Assessment should focus on thinking, reasoning, testing, improving, and reflecting, not just the final product.

Allow students to show understanding through a variety of assessment methods such as:

- Writing or analysis
- Presentations
- Design or prototyping projects
- Coding
- Visual models or diagrams
- Debates or discussions
- Portfolios
- Collaboration tasks

5. Regulatory Guidelines

5.1 Generative AI

The Ministry of Education's Safe and Responsible Use Guide of Generative AI in Classrooms (2026) operates in alignment with this Framework and provides the regulatory and operational parameters governing classroom use of Generative AI.

While the Framework establishes the educational vision, learning outcomes, pedagogical progression, and competency development across cycles, the Guide defines the governance mechanisms that ensure safe, ethical, and compliant implementation across Grades 7–12 in public schools and private schools following the MoE curriculum.

Specifically, the Guide:

- Defines approved tools and permissible classroom use.
- Establishes age restrictions.
- Sets expectations for academic integrity and authentic learning.
- Clarifies roles and responsibilities of school leadership, teachers, students, IT staff, specialists, and parents.
- Outlines prohibited practices and categorises violations under existing Behaviour Management Regulations and federal examination laws.

6. Conclusions and Future Developments

The UAE Framework provides a structured and forward-looking foundation for Artificial Intelligence education across Kindergarten to Grade 12. It establishes clear progression in conceptual understanding, ethical responsibility, and applied innovation, ensuring students are prepared to engage critically and responsibly with AI systems in academic, societal, and professional contexts. Recognising the rapidly evolving nature of AI technologies and governance landscapes, the framework will remain dynamic and responsive. Future updates may consider the following high-level directions:

- **Review and Refinement of Student Learning Outcomes**

Future review and refinement of the Student Learning Outcomes (SLOs) may be considered to ensure that the framework remains responsive to emerging AI trends, relevant technical advancements, and the evolving landscape of artificial intelligence.

- **Links with Future AI Policies**

As artificial intelligence strategies, ethical standards, and national policies evolve, the framework may be updated to ensure coherence with UAE national priorities, responsible AI governance principles, and global best practices in AI education.

- **Cross-Curricular Integration**

Future iterations may further formalise interdisciplinary integration, strengthening connections between AI Literacy and core subject areas, such as Mathematics and Science, to support authentic application, analytical reasoning, and problem-solving across domains of learning.

- **Career and Further Education Opportunities**

Future versions may expand guidance on pathways linking AI Literacy competencies to higher education programmes, technical specialisations, innovation sectors, and national workforce priorities, ensuring alignment with long-term economic and societal development goals.

- **Digital/software Requirements**

Subsequent updates may provide additional clarity regarding categories of AI platforms and digital tools suitable for each educational cycle, in alignment with national regulations, cybersecurity standards, and responsible AI guidelines.

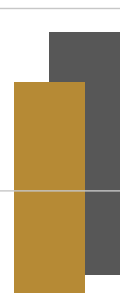
- **Hardware Requirements**

Future considerations may include updated educational hardware resources and project-based AI kits to support the practical implementation of evolving AI applications, particularly in the upper cycles where more advanced computational and prototyping tools may be required.

- **Learning Resources**

Future revisions may refine and expand recommended learning resources to ensure continued relevance with updates and emerging technologies, and alignment with national priorities and global advancements in AI technologies.

All future developments remain subject to revision in accordance with forthcoming decrees, national policies, regulatory frameworks, and implementation decisions. The framework will continue to evolve to ensure coherence, sustainability, and alignment with the UAE's long-term vision for innovation, education, and AI leadership.



Glossary

Term	Definition
Artificial Intelligence (AI)	A domain within computer science focused on creating systems capable of performing tasks typically requiring human cognition, such as learning, decision-making, and adaptation, often referred to as “Machine Intelligence.”
Accuracy	A measure of how often an AI system’s predictions are correct overall.
Accountability	The responsibility of humans and institutions for AI system design, deployment, and impact.
AI-Generated Content	Text, images, audio, or other outputs created by generative AI systems.
AI Policies	National or institutional rules and guidelines that regulate ethical and responsible AI design and implementation.
Algorithm	A defined sequence of steps or rules that an AI system follows to process information or make decisions.
Bias	Systematic unfairness in AI outcomes caused by imbalanced data, flawed assumptions, or design decisions.
Confusion Matrix	A table that encapsulates the performance of a classification model, illustrating the accuracy of its predictions.
Data	Information used by AI systems to identify patterns, make predictions, and generate outputs.

Data Quality	The accuracy, completeness, relevance, diversity, and balance of data used to train or operate AI systems.
Deep Learning	A specialised area within machine learning that employs multiple layers of neural networks to address intricate challenges by pinpointing the most critical attributes of the input.
Ethical Trade-offs	Situations where competing priorities such as fairness, efficiency, privacy, safety, or performance must be balanced in AI design and use.
Explainability	The ability to understand interpret and describe how an AI system produces its outputs or decisions.
Fairness	The principle that AI systems should avoid unjust discrimination and treat individuals or groups equitably.
Generative AI	AI systems that generate new content (e.g., text, images, audio, or code) based on patterns learned from training data.
Governance	The policies, regulations, oversight mechanisms, and frameworks that guide the responsible development and use of AI systems.
Human Oversight	The requirement that human judgement remains central in reviewing, guiding, and intervening in AI-driven processes.
Human–AI Collaboration	The interaction between humans and AI systems in shared tasks where human judgement and system outputs complement each other.
Large Language Model (LLM)	A type of generative AI model trained on large volumes of text to understand and generate human-like language.
Machine Learning	A subset of AI that emphasizes instructing systems to recognize patterns in existing data and make informed decisions or predictions on new data without explicit programming.

Term	Definition
Model Performance	The effectiveness of an AI system in achieving its intended task, evaluated using defined performance metrics.
Neural Network	A computational model structured in layers that processes data to recognise complex patterns.
Optimisation	The process of improving an AI system's performance by adjusting variables to achieve defined objectives within constraints.
Precision	A metric indicating the fraction of correctly identified positives out of all predicted positives.
Recall	A metric highlighting the fraction of true positives out of all actual positives, also known as the "True Positive Rate."
Supervised Learning	A machine learning methodology that uses a labelled dataset to train a model for predictions or categorisation.
Sustainability (AI Context)	The responsible development and use of AI to support long-term environmental, social, and economic well-being.
Unsupervised Learning	A machine learning approach that identifies underlying structures in datasets without labels.

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Appendices

Appendix I: Curriculum Framework Structure

Table I1: Curriculum Framework Structure

Grade	Domain	Strands	Standard	Learning Outcome
Kindergarten (KG)	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Explain that AI systems are human-created tools that follow instructions and use data.	Identify that humans make AI tools to help do simple tasks.
Kindergarten (KG)	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Explain that AI systems are human-created tools that follow instructions and use data.	Show that robots and AI follow the instructions given to them by humans.
Kindergarten (KG)	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Explain that AI systems are human-created tools that follow instructions and use data.	Differentiate between pretend robots and actual AI tools.
Kindergarten (KG)	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Compare how artificial intelligence is similar to or different from humans.	Identify that people have feelings and machines do not.
Kindergarten (KG)	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems use data to learn.	Describe that AI learns by repeating actions or patterns.
Kindergarten (KG)	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Identify safe and fair ways to use AI.	Explain safe actions when using digital tools.
Kindergarten (KG)	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Identify everyday uses of AI across different sectors.	Discuss where AI tools are found at home, school, and in the city.
Kindergarten (KG)	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Identify everyday uses of AI across different sectors.	Describe how AI tools help people and families.
Kindergarten (KG)	Responsible and Ethical AI	AI Policies, and Accountability	Identify ways humans control AI to ensure fairness and protect personal information.	Explain that humans are responsible for what AI does.
Kindergarten (KG)	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Create a simple story to show how AI can help humans.
01	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Explain that AI systems are human-created tools that follow instructions and use data.	Explain that AI systems follow the instructions given by humans.

Grade	Domain	Strands	Standard	Learning Outcome
01	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Compare how artificial intelligence is similar to or different from humans.	Identify that people have feelings, and AI does not.
01	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems use data to learn.	Identify that AI finds patterns by grouping things by size, colour, or shape.
01	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems use data to learn.	Identify that AI learns from many examples to find patterns.
01	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Identify everyday uses of AI across different sectors.	Identify examples of AI tools commonly used in the community.
01	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Identify simple group roles when working together to design an AI helper or game.
01	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Describe a simple real-world problem that an AI helper or game could help solve.
01	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Discuss how an AI helper or game is used to support people in everyday tasks.
01	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Identify simple features of an AI-based game or helper.
01	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	List more than one possible idea for how an AI helper or game can work.
01	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Choose the final AI solution for the identified problem.
01	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Draw a simple model of an AI helper or game.
01	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Identify whether the AI helper or game is helpful and safe.

Grade	Domain	Strands	Standard	Learning Outcome
01	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Improve the AI helper or game by making changes based on teacher-guided feedback.
01	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Describe the AI helper or game, including team roles, the problem, and how it helps people.
01	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Identify safe and fair ways to use AI.	Explain that people help AI learn what is fair.
01	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Identify safe and fair ways to use AI.	Identify when a computer or robot makes a fair or unfair choice.
01	Responsible and Ethical AI	AI Policies, and Accountability	Identify ways humans control AI to ensure fairness and protect personal information.	Identify how humans help smart machines learn and improve.
01	Responsible and Ethical AI	AI Policies, and Accountability	Identify ways humans control AI to ensure fairness and protect personal information.	Identify that machines cannot make their own decisions.
01	Responsible and Ethical AI	AI Policies, and Accountability	Identify ways humans control AI to ensure fairness and protect personal information.	Describe why it is important to have clear and fair rules for AI systems.
01	Responsible and Ethical AI	AI Policies, and Accountability	Identify ways humans control AI to ensure fairness and protect personal information.	Demonstrate safe and unsafe choices when using AI and digital tools.
01	Responsible and Ethical AI	AI Policies, and Accountability	Identify ways humans control AI to ensure fairness and protect personal information.	Identify personal information that should be kept private.
01	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Identify safe and fair ways to use AI.	Demonstrate fair behaviour when sharing technology with others.
02	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Identify everyday uses of AI across different sectors.	Describe how AI helps doctors, nurses, and safety workers do their jobs.
02	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Identify everyday uses of AI across different sectors.	Explain how AI tools help people communicate with others who speak different languages.

Grade	Domain	Strands	Standard	Learning Outcome
02	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Select team roles to support the design of a robot.
02	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Describe a simple real-world problem that a robot could help solve.
02	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Observe how robots are used in real life to help people with everyday tasks.
02	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Identify the required features for a robot-based AI project.
02	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Compare multiple possible robot designs based on the identified features.
02	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Select a final robot design that best fits the requirements.
02	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Develop a simple model of a robot using basic materials or digital tools.
02	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Evaluate how well the robot design solves the identified problem, using guided criteria.
02	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Modify the robot design through feedback to improve how it works.
02	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Design a simple poster to outline team roles, the problem solved, and the final robot design.
02	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Explain that AI systems are human-created tools that follow instructions and use data.	Identify how unclear instructions can cause machines to make mistakes.
02	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Explain that AI systems are human-created tools that follow instructions and use data.	Identify how humans are needed to fix AI mistakes.

Grade	Domain	Strands	Standard	Learning Outcome
02	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Compare how artificial intelligence is similar to or different from humans.	Compare actions that only humans can do with actions that AI can copy.
02	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Compare how artificial intelligence is similar to or different from humans.	Describe qualities that make humans unique compared to AI systems, such as empathy, imagination, and caring for others.
02	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems use data to learn.	Describe how AI recognises pictures, sounds, or words by finding patterns in data.
02	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems use data to learn.	Identify examples of bad and good data.
02	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Identify safe and fair ways to use AI.	Explain that giving AI many different examples helps it make fairer decisions.
02	Responsible and Ethical AI	AI Policies, and Accountability	Identify ways humans control AI to ensure fairness and protect personal information.	Explain that humans write clear instructions to guide how AI should behave.
02	Responsible and Ethical AI	AI Policies, and Accountability	Identify ways humans control AI to ensure fairness and protect personal information.	Demonstrate how unclear or missing instructions can make AI act unfairly.
02	Responsible and Ethical AI	AI Policies, and Accountability	Identify ways humans control AI to ensure fairness and protect personal information.	Demonstrate how humans and AI can work together to complete a task while keeping humans in charge.
02	Responsible and Ethical AI	AI Policies, and Accountability	Identify ways humans control AI to ensure fairness and protect personal information.	Identify what information is safe or unsafe to share when using AI or digital tools.
02	Responsible and Ethical AI	AI Policies, and Accountability	Identify ways humans control AI to ensure fairness and protect personal information.	Explain why personal information should be kept private to stay safe when using technology.
02	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Identify safe and fair ways to use AI.	Describe how AI can make unfair choices when it only learns from limited examples.
03	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Identify everyday uses of AI across different sectors.	Compare the different ways AI is used in transportation.

Grade	Domain	Strands	Standard	Learning Outcome
03	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Identify everyday uses of AI across different sectors.	Explain how AI translates words and sentences from one language into another.
03	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Identify everyday uses of AI across different sectors.	Show how AI can make long information shorter and easier to read.
03	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Identify everyday uses of AI across different sectors.	Describe how AI can answer questions to help people learn new things.
03	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Apply teamwork skills through defined roles linked to AI-related design tasks.
03	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Identify user needs in a real-world problem.
03	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Investigate how human creativity influences the design of real-world AI systems.
03	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Identify the functional requirements for an AI project.
03	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Compare multiple possible design ideas based on the identified requirements.
03	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Select a final AI solution that best fits the project requirements.
03	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Create a sketch or model that shows how an AI system works.
03	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Assess how well the AI solution meets user needs.
03	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Revise the AI design to improve how it works based on feedback.

Grade	Domain	Strands	Standard	Learning Outcome
03	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Explain the AI project using a poster or model, showing the problem, the solution, and team roles.
03	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Explain that AI systems are human-created tools that follow instructions and use data.	Explain that some AI systems learn from examples instead of following fixed instructions.
03	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Compare how artificial intelligence is similar to or different from humans.	Explain that AI does not have the ability to make moral choices like humans.
03	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Identify safe and fair ways to use AI.	Describe what bias means in AI.
03	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Identify safe and fair ways to use AI.	Explain how people can improve AI fairness by providing more complete and diverse examples.
03	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Identify safe and fair ways to use AI.	Explain how bias can cause AI to give incorrect or unfair outputs.
03	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Evaluate when AI outputs can be trusted and when human judgement is required.	Discuss situations where human judgement is needed to review or correct AI outputs.
03	Responsible and Ethical AI	AI Policies, and Accountability	Identify ways humans control AI to ensure fairness and protect personal information.	Describe how to keep personal information private and safe when using AI or online tools.
03	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems use data to learn.	Describe how AI learns from large amounts of data to improve its performance.
04	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Identify everyday uses of AI across different sectors.	Describe how AI uses environmental data to monitor nature, predict weather, and reduce waste.
04	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Identify everyday uses of AI across different sectors.	Explain how AI systems in different UAE sectors work together to improve daily life.
04	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Demonstrate effective teamwork through roles and responsibilities that reflect different AI-related jobs.

Grade	Domain	Strands	Standard	Learning Outcome
04	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Identify a real-world problem that could be addressed using an AI tool.
04	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Investigate real-world uses of AI tools.
04	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Specify clear technical and user-centered requirements for an AI project through collaborative planning.
04	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Evaluate multiple existing solutions based on feasibility and user needs.
04	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Select a final AI tool that best meets the identified requirements.
04	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Create a simple model or prototype of the selected AI tool.
04	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Assess the AI tool against given criteria.
04	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Improve the AI tool by refining it based on evaluation results and feedback.
04	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that support humans in everyday tasks.	Develop a presentation outlining how teamwork, research, design decisions, and improvements led to the final solution.
04	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Explain that AI systems are human-created tools that follow instructions and use data.	Explain that AI uses sets of rules to make different choices in different situations.
04	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems use data to learn.	Define machine learning.
04	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems use data to learn.	Describe how simple AI decisions are made using “if-then” rules.

Grade	Domain	Strands	Standard	Learning Outcome
04	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems use data to learn.	Explain how AI uses past data patterns to generate predictions.
04	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Identify safe and fair ways to use AI.	Analyse how biased data can affect how AI systems respond to different people or situations.
04	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Identify safe and fair ways to use AI.	Identify situations where AI should or should not be used to make decisions.
04	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Identify safe and fair ways to use AI.	Describe why people, not AI, should decide what is ethical and fair.
04	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Evaluate when AI outputs can be trusted and when human judgement is required.	Analyse how relying on AI without human judgement can lead to mistakes or unfair decisions.
04	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Evaluate when AI outputs can be trusted and when human judgement is required.	Describe how to use AI tools safely by checking results first.
04	Responsible and Ethical AI	AI Policies, and Accountability	Identify ways humans control AI to ensure fairness and protect personal information.	Explain why humans make rules to ensure AI behaves fairly and safely.
04	Responsible and Ethical AI	AI Policies, and Accountability	Identify ways humans control AI to ensure fairness and protect personal information.	Explain how AI systems collect personal information online.
05	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how AI manipulates or creates media that may cause safety and security concerns.	Identify the difference between real and AI-generated content.
05	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how AI manipulates or creates media that may cause safety and security concerns.	Introduce the risks of AI being used to manipulate media.
05	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how AI manipulates or creates media that may cause safety and security concerns.	Describe how AI can help detect online threats but can also create new safety and privacy risks.
05	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how ethics, cultural values, and inclusion guide AI decision making.	Identify examples of bias in AI decisions caused by unbalanced or unfair data.

Grade	Domain	Strands	Standard	Learning Outcome
05	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how ethics, cultural values, and inclusion guide AI decision making.	Demonstrate how improving data with fairer examples can reduce bias in AI outputs.
05	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how ethics, cultural values, and inclusion guide AI decision making.	Examine how cultural values influence how AI systems are used.
05	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how ethics, cultural values, and inclusion guide AI decision making.	Discuss potential issues that arise when AI ignores culture and values.
05	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Identify how different team roles relate to the fields or careers that shape AI tools.
05	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Describe a simple real-world problem that an AI tool can help solve.
05	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Use structured research to gather information about how AI tools are used to solve real-world problems.
05	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Identify simple requirements for an AI tool that solves a real-world problem.
05	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	List existing possible solutions for an AI tool, using sketches or diagrams to show how the idea can work.
05	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Select the most suitable AI tool for the identified problem.
05	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Create a basic prototype or representation of an AI tool.
05	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Evaluate the fairness and safety of the AI tool using guided criteria.
05	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Improve the AI tool by making simple changes based on guided feedback.

Grade	Domain	Strands	Standard	Learning Outcome
05	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Describe the problem, the solution idea, and how research informed the design of the AI tool through a simple presentation.
05	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Organise team roles using real AI-related functions.
05	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse how AI is applied across different sectors.	Describe how AI is used to improve transportation in real-life systems.
05	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Evaluate how AI addresses global challenges by promoting sustainability, humanitarian aid, and social impact.	Identify ways AI can help solve global problems such as pollution, hunger, or safety.
05	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Compare how artificial intelligence is similar to or different from humans.	Describe how AI systems and humans differ in perception.
05	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Compare how artificial intelligence is similar to or different from humans.	Differentiate between AI-generated emotional responses and genuine human empathy.
05	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems learn from data and use algorithms to make decisions.	Explain how algorithms guide AI behaviour through ordered and repeated steps.
05	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems learn from data and use algorithms to make decisions.	Describe how AI systems use data to recognise patterns and classify information.
05	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how advanced AI models process information.	Identify the main parts of a neural network.
05	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how advanced AI models process information.	Demonstrate how data moves through input, hidden, and output layers.
05	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how AI systems generate new outputs using patterns learned from data.	Identify visual patterns used by AI systems to recognise faces.
05	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how AI systems generate new outputs using patterns learned from data.	Identify how voice assistants are trained with human data.

Grade	Domain	Strands	Standard	Learning Outcome
06	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Identify AI tools that can help solve a real-world problem.
06	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Investigate existing AI-supported solutions to understand how AI tools address real-world problems.
06	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Summarise research findings to show connections between the identified problem and potential AI solutions.
06	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Identify the functional requirements for an AI solution based on the problem and research.
06	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Compare multiple possible AI solution ideas, explaining how each uses real-world logic to address the problem.
06	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Select a final AI solution that meets the identified requirements of the problem.
06	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Design a simple model or prototype of an AI solution using appropriate tools.
06	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Evaluate the usefulness and fairness of the AI solution using guided criteria.
06	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Modify the AI solution by addressing identified strengths and weaknesses using feedback.
06	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Explain the AI solution, how it works, and why it is useful through a refined project presentation.
06	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how ethics, cultural values, and inclusion guide AI decision making.	Explain what makes an AI decision ethical or unethical.
06	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how ethics, cultural values, and inclusion guide AI decision making.	Analyse real-world cases where biased or incomplete data resulted in unethical AI outcomes.

Grade	Domain	Strands	Standard	Learning Outcome
06	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how AI manipulates or creates media that may cause safety and security concerns.	Explain how AI can generate false text, images, or videos.
06	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how AI manipulates or creates media that may cause safety and security concerns.	Discuss safe and responsible practices when encountering AI-generated content.
06	Responsible and Ethical AI	AI Policies, and Accountability	Identify how AI impacts privacy, accountability, and the protection of personal rights.	Explain how AI systems learn from personal data.
06	Responsible and Ethical AI	AI Policies, and Accountability	Identify how AI impacts privacy, accountability, and the protection of personal rights.	Discuss the risks of sharing personal information with AI systems.
06	Responsible and Ethical AI	AI Policies, and Accountability	Identify how AI impacts privacy, accountability, and the protection of personal rights.	Explain why rules and regulations are needed to guide AI behavior.
06	Responsible and Ethical AI	AI Policies, and Accountability	Identify how AI impacts privacy, accountability, and the protection of personal rights.	Identify who is responsible for the decisions and outcomes produced by AI systems.
06	Responsible and Ethical AI	AI Policies, and Accountability	Examine how AI is governed through national policies.	Compare how countries use and regulate AI differently.
06	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse how AI is applied across different sectors.	Explain how AI supports services such as smart city systems, healthcare, and environmental protection.
06	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Evaluate how AI addresses global challenges by promoting sustainability, humanitarian aid, and social impact.	Explain how AI contributes to creating smarter, safer, and more sustainable societies.
06	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Compare how artificial intelligence is similar to or different from humans.	Explain how AI systems learn to solve complex tasks compared to humans.
06	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Compare how artificial intelligence is similar to or different from humans.	Compare how AI creativity differs from human creativity.
06	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems learn from data and use algorithms to make decisions.	Analyse how changing the rules in an algorithm changes the decisions an AI system makes.

Grade	Domain	Strands	Standard	Learning Outcome
06	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems learn from data and use algorithms to make decisions.	Describe how labelled data is used to train AI systems through supervised learning.
06	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems learn from data and use algorithms to make decisions.	Explain how AI systems identify patterns by grouping unlabelled data.
06	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how advanced AI models process information.	Differentiate between single-layer and multi-layer neural networks.
06	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Evaluate AI model performance.	Describe how accuracy is measured in AI predictions.
06	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Evaluate how AI addresses global challenges by promoting sustainability, humanitarian aid, and social impact.	Evaluate the impact of AI solutions used to address community challenges.
07	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Develop a team plan that organises responsibilities needed to begin planning a small AI-based project.
07	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Describe a real-world issue, including ethical risks the AI solution must address.
07	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Use structured research to understand the feasibility, risks, limitations, and ethical impacts of existing AI solutions.
07	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Identify functional requirements and basic constraints, including responsible-use considerations, for a small AI-based project.
07	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Evaluate multiple existing AI solutions considering feasibility, risks, and ethical implications.
07	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Select a final AI solution that best balances effectiveness, feasibility, and ethical responsibility.
07	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Develop a prototype of an AI solution in response to testing results and ethical considerations.

Grade	Domain	Strands	Standard	Learning Outcome
07	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Assess whether the final AI solution is safe, fair, private, and useful, using a structured checklist.
07	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Modify the AI prototype based on results and feedback from peers or users.
07	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Develop a presentation that clearly outlines the problem, research findings, final solution, and ethical considerations of the AI project.
07	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how ethics, cultural values, and inclusion guide AI decision making.	Differentiate between accuracy and fairness in AI systems.
07	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how ethics, cultural values, and inclusion guide AI decision making.	Discuss ethical trade-offs when AI systems make decisions about people.
07	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how ethics, cultural values, and inclusion guide AI decision making.	Analyse how cultural bias in datasets and design influences AI behavior and outcomes.
07	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how AI manipulates or creates media that may cause safety and security concerns.	Explain how AI tools can alter or manipulate audio, video, and images to change or misrepresent information.
07	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how AI manipulates or creates media that may cause safety and security concerns.	Identify ways to detect AI-generated or manipulated media.
07	Responsible and Ethical AI	AI Policies, and Accountability	Identify how AI impacts privacy, accountability, and the protection of personal rights.	Discuss how AI is used in law enforcement and courts
07	Responsible and Ethical AI	AI Policies, and Accountability	Identify how AI impacts privacy, accountability, and the protection of personal rights.	Analyse the benefits and risks of using AI in law enforcement.
07	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse how AI is applied across different sectors.	Examine how national AI strategies shape productivity, wellbeing, and future development in the UAE.
07	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Compare how artificial intelligence is similar to or different from humans.	Identify tasks AI can do and tasks that need human values or intuition.

Grade	Domain	Strands	Standard	Learning Outcome
07	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems learn from data and use algorithms to make decisions.	Differentiate between supervised, unsupervised, and reinforcement learning in AI systems.
07	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems learn from data and use algorithms to make decisions.	Explain how AI uses graphs and visual representations to identify patterns in data.
07	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how advanced AI models process information.	Examine applications of deep learning neural networks.
07	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Evaluate AI model performance.	Examine how accuracy is used to evaluate AI models.
07	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how AI systems generate new outputs using patterns learned from data.	Explain how AI systems use personal behavior data to make predictions.
07	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how AI systems generate new outputs using patterns learned from data.	Explain how AI systems suggest content based on user interests and choices.
07	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how AI systems generate new outputs using patterns learned from data.	Explain how machines process human language.
07	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Evaluate how AI addresses global challenges by promoting sustainability, humanitarian aid, and social impact.	Determine how AI is used to support disaster response, emergency services, and humanitarian efforts.
08	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how ethics, cultural values, and inclusion guide AI decision making.	Identify ways AI systems can unintentionally discriminate.
08	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how ethics, cultural values, and inclusion guide AI decision making.	Describe protections that help prevent discrimination in AI systems.
08	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how ethics, cultural values, and inclusion guide AI decision making.	Explain how promoting diversity and inclusion can reduce discrimination in AI systems.
08	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how AI manipulates or creates media that may cause safety and security concerns.	Describe how AI can spread fake or misleading content like deepfakes.

Grade	Domain	Strands	Standard	Learning Outcome
08	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Explain how AI manipulates or creates media that may cause safety and security concerns.	Evaluate the ethical and societal impact of AI-generated text, images, or videos.
08	Responsible and Ethical AI	AI Policies, and Accountability	Examine how AI is governed through national policies.	Explain how the UAE promotes ethical and responsible use of AI through national governance and regulation.
08	Responsible and Ethical AI	AI Policies, and Accountability	Examine how AI is governed through national policies.	Describe how global organisations, governments, and companies influence the development and regulation of AI.
08	Responsible and Ethical AI	AI Policies, and Accountability	Identify how AI impacts privacy, accountability, and the protection of personal rights.	Examine the concept of explainability in AI systems.
08	Responsible and Ethical AI	AI Policies, and Accountability	Identify how AI impacts privacy, accountability, and the protection of personal rights.	Explain why accountability is important when AI systems make decisions that are difficult to interpret.
08	AI Applications, Innovation, and Practice	Usage of AI Tools	Use generative AI models to create new content.	Explain how generative AI models create new content by learning patterns from existing data.
08	AI Applications, Innovation, and Practice	Usage of AI Tools	Use generative AI models to create new content.	Use a generative AI tool to produce content.
08	AI Applications, Innovation, and Practice	Usage of AI Tools	Use generative AI models to create new content.	Compare multiple outputs generated by a generative AI tool to identify patterns, similarities, and differences.
08	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Explain the core stages in building an AI system (problem definition, data collection, training, evaluation, and deployment).
08	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Design an interdisciplinary team plan that aligns responsibilities with the stages of building an AI system.
08	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Define a UAE or global challenge that can be addressed using an AI system.
08	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Investigate how AI systems address global challenges by examining their data, training, evaluation, and deployment decisions.

Grade	Domain	Strands	Standard	Learning Outcome
08	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Specify technical and ethical requirements for an interdisciplinary AI project.
08	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Evaluate existing AI solutions considering fairness, usability, and system-level implications.
08	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Select a final AI solution that aligns with ethical principles, user needs, and system requirements.
08	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Construct a prototype of an AI solution to address system behaviour, fairness, and usability.
08	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Evaluate the ethical principles, usability goals, and system requirements of the AI solution using guided criteria.
08	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Optimise the AI solution by refining it to better meet ethical principles, usability goals, and system requirements.
08	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI projects that address real-world problems or challenges.	Create a presentation that clearly demonstrates how the AI solution contributes to addressing a UAE or global challenge.
08	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse how AI is applied across different sectors.	Assess how AI improves service systems in healthcare, transport, education, and government.
08	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse how AI is applied across different sectors.	Investigate how AI is used in public safety systems such as crime detection and facial recognition.
08	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse how AI is applied across different sectors.	Explain how AI-driven automation is transforming careers, work tasks, and productivity across industries.
08	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Evaluate how AI addresses global challenges by promoting sustainability, humanitarian aid, and social impact.	Analyse the environmental impact of AI systems.
08	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Compare how artificial intelligence is similar to or different from humans.	Analyse how AI systems and humans approach tasks differently in perception, reasoning, problem-solving, and interaction.

Grade	Domain	Strands	Standard	Learning Outcome
08	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems learn from data and use algorithms to make decisions.	Analyse how missing, incorrect, or inconsistent data can introduce errors or bias during AI model training.
08	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems learn from data and use algorithms to make decisions.	Use datasets of varying quality to observe their impact on AI model training results.
08	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Explain how AI systems learn from data and use algorithms to make decisions.	Explain why AI models must be tested using new data.
08	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Evaluate AI model performance.	Explain how a confusion matrix is used to show different types of AI prediction errors.
08	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Evaluate AI model performance.	Explain how precision measures how accurate an AI model's positive predictions are.
08	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Evaluate AI model performance.	Explain how recall measures how well an AI model identifies all relevant cases.
09	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Analyse how AI systems work and how data and design choices affect their use and impact.	Analyse how different factors, including data quality, system design, and human decisions, affect AI performance and outcomes.
09	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Analyse how AI systems work and how data and design choices affect their use and impact.	Identify the core components of an AI system.
09	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Analyse how AI systems work and how data and design choices affect their use and impact.	Explain how logic-based AI systems use rules and reasoning for decision-making.
09	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Analyse how AI systems work and how data and design choices affect their use and impact.	Explain how optimisation-based AI systems use objectives and constraints for solution selection.
09	AI Foundations and Core Principles	Foundations and Fundamentals of AI	Analyse how AI systems work and how data and design choices affect their use and impact.	Explain how machine-learning systems use data for pattern recognition and prediction.
09	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how data characteristics influence decision-making in AI systems.	Analyse the characteristics of real datasets (size, completeness, balance, and relevance) used in AI systems.

Grade	Domain	Strands	Standard	Learning Outcome
09	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how data characteristics influence decision-making in AI systems.	Identify potential issues in datasets used for AI.
09	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how data characteristics influence decision-making in AI systems.	Explain how probability is used in algorithmic decision-making.
09	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how data characteristics influence decision-making in AI systems.	Analyse simple algorithmic decision processes involving logic, data, and probability.
09	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how AI systems model human emotions and behaviour.	Examine how AI systems detect human emotions.
09	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how AI systems model human emotions and behaviour.	Examine how AI systems predict human behaviour or actions.
09	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how AI systems use optimisation to pursue goals and the trade-offs this creates.	Explain how AI systems define goals for optimisation.
09	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how AI systems use optimisation to pursue goals and the trade-offs this creates.	Explain how constraints shape optimisation decisions in AI systems.
09	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how AI systems use optimisation to pursue goals and the trade-offs this creates.	Evaluate the impacts of optimisation trade-offs on AI performance and outcomes.
09	AI Applications, Innovation, and Practice	Usage of AI Tools	Apply effective prompting strategies when using AI tools.	Identify the core capabilities of large language models (LLMs).
09	AI Applications, Innovation, and Practice	Usage of AI Tools	Apply effective prompting strategies when using AI tools.	Identify the key limitations of large language models (LLMs).
09	AI Applications, Innovation, and Practice	Usage of AI Tools	Apply effective prompting strategies when using AI tools.	Use prompting strategies for academic tasks, including research, reading comprehension, and study strategies.
09	AI Applications, Innovation, and Practice	Usage of AI Tools	Apply effective prompting strategies when using AI tools.	Write clear prompts for accurate, safe, and relevant LLM outputs.

Grade	Domain	Strands	Standard	Learning Outcome
09	AI Applications, Innovation, and Practice	Usage of AI Tools	Apply effective prompting strategies when using AI tools.	Modify prompts for improved AI output accuracy and relevance.
09	AI Applications, Innovation, and Practice	Usage of AI Tools	Apply effective prompting strategies when using AI tools.	Apply prompting strategies to reduce academic risks, including misinformation, bias, and over-reliance on AI.
09	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Identify examples of academic dishonesty, including plagiarism and the unauthorised or misleading use of AI tools.
09	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Explain how representation in datasets can influence fairness in AI systems.
09	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Explain how algorithmic bias in AI systems can reinforce social inequalities.
09	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Explain strategies used in AI systems to reduce algorithmic bias.
09	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Explain the key traits of trustworthy AI systems.
09	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Demonstrate basic project-management skills by using tools such as Gantt charts.
09	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Investigate a community-based problem using real-world data, considering responsible and ethical AI use.
09	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Document research findings using visual tools such as mind maps.
09	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Identify functional, technical, and ethical requirements for an AI tool using structured criteria.
09	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Analyse multiple existing AI solutions using research, focusing on strengths, limitations, and trade-offs.

Grade	Domain	Strands	Standard	Learning Outcome
09	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Create a final solution by modifying existing AI solutions aligned with project requirements using refined diagrams, flowcharts, schematics, mathematical models, or text.
09	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Construct a prototype of an AI tool using rule-based logic or a basic AI platform.
09	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Evaluate the fairness, privacy, and explainability of the designed AI tool using guided criteria.
09	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Improve the AI tool prototype based on performance, requirements, and societal considerations.
09	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Create a presentation using appropriate visual and verbal elements for a defined audience.
10	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how neural network design influences model performance.	Explain the relationship between neural networks and deep learning.
10	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how neural network design influences model performance.	Explain how neural networks process data through layered structures.
10	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how neural network design influences model performance.	Analyse how neural network structure (layers and connections) influences performance.
10	AI Foundations and Core Principles	Data, Algorithms, and Machine Learning	Analyse how neural network design influences model performance.	Examine the limitations of neural networks.
10	AI Applications, Innovation, and Practice	Usage of AI Tools	Evaluate different AI tools in terms of accuracy, accessibility, strength and limitations	Compare multiple AI tools, including UAE-developed LLMs, for academic and real-world tasks.
10	AI Applications, Innovation, and Practice	Usage of AI Tools	Evaluate different AI tools in terms of accuracy, accessibility, strength and limitations	Evaluate the strengths of AI tools, including output reliability, in academic and real-world contexts.

Grade	Domain	Strands	Standard	Learning Outcome
10	AI Applications, Innovation, and Practice	Usage of AI Tools	Evaluate different AI tools in terms of accuracy, accessibility, strength and limitations	Evaluate the limitations of different AI tools in academic and real-world contexts.
10	AI Applications, Innovation, and Practice	Usage of AI Tools	Use AI tools to enhance work effectiveness in real-world contexts.	Use AI to support personal communication style.
10	AI Applications, Innovation, and Practice	Usage of AI Tools	Use AI tools to enhance work effectiveness in real-world contexts.	Use AI to enhance leadership skills.
10	AI Applications, Innovation, and Practice	Usage of AI Tools	Use AI tools to enhance work effectiveness in real-world contexts.	Identify strategies to maintain originality when using AI tools.
10	AI Applications, Innovation, and Practice	Usage of AI Tools	Use AI tools to enhance work effectiveness in real-world contexts.	Use AI tools for managing tasks, including planning, organisation, productivity, and communication.
10	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Analyse how user interface design choices can affect inclusivity, accessibility, and trust in AI systems.
10	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Explain how human values guide the design of human-centred AI systems.
10	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Examine how AI affects human expression, behaviour, and creativity.	Evaluate how AI-generated responses can influence user opinions and decisions.
10	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Examine how AI affects human expression, behaviour, and creativity.	Analyse how AI-generated content (text, images, or code) influences creativity and originality.
10	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	Analyse how human roles, skills, and responsibilities change when tasks are shared between people and AI or robotic systems.
10	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	Evaluate the trade-offs of human–AI collaboration for efficiency, safety, and decision-making.
10	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	Analyse how AI is used in healthcare, including diagnosis, predictive genetics, and personalised medicine.

Grade	Domain	Strands	Standard	Learning Outcome
10	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	Evaluate the trade-offs of using AI in healthcare services.
10	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	Explain how AI tools accelerate scientific research through data analysis, modelling, and simulation.
10	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	Analyse how AI systems shape digital media content.
10	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	Evaluate how AI-driven systems influence what content people see and share, shaping cultural expression.
10	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	Analyse the trade-offs of human–AI collaboration in shaping public discourse.
10	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Develop a collaborative project plan that includes a section on relevant UAE AI initiatives and future career pathways.
10	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Investigate a real-world problem that can be solved with AI, identifying key components and intended outcomes.
10	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Document research findings outlining existing solutions' feasibility, risks, and ethical considerations.
10	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Identify measurable technical specifications for an AI-supported solution based on the problem and research.
10	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Compare multiple existing AI solutions using research evidence and structured decision-making frameworks, such as the SWOT analysis.
10	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Create a final solution by combining features from multiple existing AI solutions aligned with the technical requirements of the project.
10	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Develop an AI-supported solution based on defined technical requirements.

Grade	Domain	Strands	Standard	Learning Outcome
10	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Evaluate the AI solution outcomes against technical requirements, UAE values, and fairness criteria.
10	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Modify the AI solution prototype by balancing performance trade-offs against requirements and societal considerations.
10	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Design a pitch and presentation tailored to a specific audience and purpose.
11	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Analyse barriers that different user groups may face when interacting with AI systems.
11	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Analyse how accessibility barriers in AI systems can increase existing social inequalities.
11	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Evaluate how AI design choices can improve access for diverse communities.
11	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Apply inclusive design principles to improve AI solutions.
11	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Analyse how bias in system design affects fairness in AI systems.
11	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Analyse how bias in training data affects fairness in AI systems.
11	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Analyse case studies of biased AI outcomes and their ethical impact on different communities.
11	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Evaluate the effectiveness of strategies used to promote fairness in AI systems.
11	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Identify blind spots in AI system designs that may lead to unintended outcomes.

Grade	Domain	Strands	Standard	Learning Outcome
11	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Analyse how interactions between users and AI systems can reveal design weaknesses.
11	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Evaluate potential risks associated with deploying AI systems in real-world contexts.
11	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Recommend design improvements to enhance the trustworthiness of AI systems.
11	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	Analyse how AI systems are used to support decision-making in areas such as education, hiring, insurance, and immigration.
11	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	Analyse case studies showing how AI systems support decision-making across public and private sector contexts.
11	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	Explain how AI is used in cybersecurity threat management, including detection, prevention, and response.
11	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	Analyse the role of AI in infrastructure protection related to cybersecurity and public safety.
11	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	Analyse how AI is used in fraud detection.
11	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	Analyse how predictive tools are used in areas such as security, policing, and social services.
11	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Analyse the implications of artificial intelligence in human–AI collaboration across different sectors.	Evaluate the ethical implications of AI tools in public and private sectors.
11	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate responsible AI use against AI governance frameworks.	Analyse how AI improves government performance through informed decision-making and efficient use of public resources.
11	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate responsible AI use against AI governance frameworks.	Explain how different countries regulate AI in response to national strategic priorities.

Grade	Domain	Strands	Standard	Learning Outcome
11	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate responsible AI use against AI governance frameworks.	Compare national AI policy approaches across selected countries and global organisations.
11	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate the effectiveness of AI governance in ensuring responsible and trustworthy use of AI systems.	Analyse how explainability in AI systems supports accountable AI use.
11	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate the effectiveness of AI governance in ensuring responsible and trustworthy use of AI systems.	Analyse the trade-offs between AI system performance and interpretability.
11	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate the effectiveness of AI governance in ensuring responsible and trustworthy use of AI systems.	Explain how personal data is protected in AI systems using guidelines and policies.
11	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate the effectiveness of AI governance in ensuring responsible and trustworthy use of AI systems.	Evaluate the risks to the public when AI systems lack data protection safeguards.
11	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Develop a collaborative project plan that includes scope, roles, milestones, constraints, and links to the UAE's future workforce needs in AI.
11	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Analyse a real-world problem that can be solved using prompt engineering and large language models (LLMs).
11	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Document research findings using digital tools for analysis and decision-making.
11	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Identify system requirements covering functionality, constraints, and user needs.
11	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Analyse existing AI solutions using diagrams, models, or mathematical representations.
11	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Develop a final AI solution by modifying or combining existing solutions based on feasibility and performance evidence.
11	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Integrate multiple components into an AI solution prototype aligned with defined requirements.

Grade	Domain	Strands	Standard	Learning Outcome
11	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Evaluate the AI prototype by integrating stakeholder and peer feedback against ethical, technical, and impact criteria.
11	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Improve the AI solution by refining prompts for clarity, ethical compliance, and usefulness.
11	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Develop a presentation demonstrating how the prototype meets technical, ethical, and impact criteria.
12	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Explain how AI systems can reflect the values embedded in their data, design, or use.
12	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Analyse situations where AI decisions may conflict with cultural values.
12	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Evaluate the importance of human judgement when AI outputs challenge ethical values.
12	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Explain how AI systems can influence values such as justice, peace, and responsibility.
12	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Analyse scenarios where AI use raises concerns about fairness or accountability.
12	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Evaluate the role of responsible AI design and use in promoting social well-being.
12	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Identify key international principles for ethical and responsible AI.
12	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Compare international AI ethics principles with UAE values and national AI guidelines.
12	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Evaluate how cultural and national values influence approaches to AI governance and use.

Grade	Domain	Strands	Standard	Learning Outcome
12	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Explain why critical thinking is essential when using AI systems.
12	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Assess the appropriateness of AI-generated outputs or recommendations using moral reasoning.
12	Responsible and Ethical AI	Ethics, Bias, and Fairness in AI	Enhance AI systems to align with societal expectations.	Justify decisions that balance AI assistance with human responsibility and ethical judgement.
12	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Evaluate the effectiveness of AI in addressing global challenges through humanitarian and environmental applications.	Analyse how AI is used in humanitarian contexts, such as disaster response and public health initiatives.
12	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Evaluate the effectiveness of AI in addressing global challenges through humanitarian and environmental applications.	Explain how AI is used in environmental analysis, including monitoring, modelling, and prediction.
12	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Evaluate the effectiveness of AI in addressing global challenges through humanitarian and environmental applications.	Evaluate the effectiveness of AI-based solutions for global problem-solving.
12	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Evaluate the influence of AI on economic development and social change.	Analyse how AI is transforming infrastructure, including transport, utilities, and logistical systems.
12	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Evaluate the influence of AI on economic development and social change.	Analyse how AI-driven automation is reshaping labour markets and job roles.
12	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Evaluate the influence of AI on economic development and social change.	Evaluate the importance of workforce readiness, including upskilling and lifelong learning, in response to AI-driven change.
12	AI Applications, Innovation, and Practice	AI Applications in Society and Industry	Evaluate the influence of AI on economic development and social change.	Analyse how AI is transforming key UAE sectors, including energy and government services.
12	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate responsible AI use against AI governance frameworks.	Apply responsible AI criteria (such as fairness, transparency, and data protection) to a given use case.

Grade	Domain	Strands	Standard	Learning Outcome
12	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate responsible AI use against AI governance frameworks.	Design AI use guidelines that support responsible AI use.
12	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate the effectiveness of AI governance in ensuring responsible and trustworthy use of AI systems.	Analyse how AI rules are established within national and international governance frameworks.
12	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate the effectiveness of AI governance in ensuring responsible and trustworthy use of AI systems.	Evaluate how AI systems are monitored for compliance through auditing.
12	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate responsible AI use against AI governance frameworks.	Evaluate how AI knowledge and skills support future learning and career pathways.
12	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate the effectiveness of AI governance in ensuring responsible and trustworthy use of AI systems.	Analyse methods used to enhance AI explainability in advanced models.
12	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate the effectiveness of AI governance in ensuring responsible and trustworthy use of AI systems.	Analyse how data governance affects accountability in AI systems.
12	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate the effectiveness of AI governance in ensuring responsible and trustworthy use of AI systems.	Evaluate risks associated with poor data governance in large-scale AI systems.
12	Responsible and Ethical AI	AI Policies, and Accountability	Evaluate the effectiveness of AI governance in ensuring responsible and trustworthy use of AI systems.	Evaluate the role of AI auditing in ensuring responsible and trustworthy AI systems.
12	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Apply advanced project-management skills using AI tools for project task organisation.
12	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Analyse a problem using research and design-thinking methods, considering user needs and potential solutions.
12	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Apply prompting techniques for research and deeper understanding of the problem.
12	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Document project findings using advanced digital tools.

Grade	Domain	Strands	Standard	Learning Outcome
12	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Translate system requirements into a functional AI-enabled design using LLMs or other AI tools.
12	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Evaluate existing AI solutions using analytical or simulation-based approaches, with a focus on performance and impact.
12	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Design a final AI solution by systematically combining or adapting existing solutions against defined criteria.
12	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Create a functional working concept using LLMs or advanced AI tools.
12	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Assess the ethical and social impact of the AI solution using LLMs or AI tools.
12	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Improve the AI project through integration of technical, ethical, and societal evidence.
12	AI Applications, Innovation, and Practice	Innovation and Projects Design	Design AI solutions that address complex real-world problems using systematic design processes.	Develop a persuasive presentation tailored for judges, educators, and peers.