

Imperial's Vision for Education in the Age of AI

Introduction

Imperial's educational offer is at the heart of our Science for Humanity strategy. It is designed to develop independent thinkers who can act responsibly, challenge assumptions, and lead in ways that contribute positively to society in a changing world. The rapid emergence of artificial intelligence (AI) is reshaping the context in which this mission is delivered: how knowledge is produced, how students learn, how teaching is designed, and how achievement is evidenced. As a world-changing institution with global influence and a deep commitment to innovation, Imperial is well placed to lead in this space. We will ensure AI enhances the quality and ambition of our teaching, assessment, and student support, with human connection at the centre and rigorous learning and academic integrity upheld.

This Vision sets out how Imperial will achieve this: pursuing educational excellence through the purposeful and innovative use of AI, while being honest about what it cannot do and disciplined about the risks it carries. We will shape how AI is used so that it strengthens learning, supports staff, and upholds our values. We will actively explore and pilot AI, and scale what works. The integration of AI into curricula, assessment, or institutional practice will be evidence-informed, evaluated against educational outcomes, and subject to ongoing review.

AI has the potential to deepen learning, strengthen assessment and feedback, open more individualised pathways, improve student support, and free curriculum time for the human connections and intellectual challenges that matter most. Where AI accelerates the acquisition of foundational skills, this is an opportunity to be more ambitious in what our graduates can achieve.

The widespread use and development of AI is transforming the professional landscape our graduates enter. AI tools and agents are becoming increasingly pervasive, and Imperial's education must prepare graduates to thrive and lead in a world in which AI is deeply integrated. Many of Imperial's graduates will not only work with AI but shape how it is developed and deployed within their fields. Ensuring they do so with critical judgement, ethical responsibility, and a commitment to societal benefit is central to how our education enacts Imperial's Science for Humanity strategy. This is reinforced by what employers now expect: critical AI engagement, independent thought, and human skills that complement automated, AI agent mediated workflows. The curriculum must prepare students for this reality, while remaining grounded in disciplinary mastery.

Realising these opportunities means being clear-eyed about risk. If AI can produce graduate-level outputs, Imperial must ensure its degrees and qualifications remain valued and distinctive. AI can deepen access to information and accelerate practice, but it can equally shortcut the cognitive processes through which understanding is built; managing this tension is at the heart of our approach. AI products are often designed for commercial goals that may not match educational priorities, so institutional governance and

professional judgement are essential. We must also manage specific risks: bias embedded in training data, intellectual property and copyright concerns, threats to privacy and data sovereignty, environmental costs of computing at scale, unequal access to tools and platforms, misinformation through hallucinated outputs, AI sycophancy, and adverse effects on our community's mental health and wellbeing. These risks will not be mitigated by inaction; therefore, we will take a proactive approach to AI literacy and curriculum design and commit to the systematic evaluation of harms alongside benefits.

Imperial does not approach this work in isolation. We will draw on significant institutional strengths in AI research, and on the programmes we deliver in machine learning and data science. This Vision sits alongside Imperial's broader strategic initiatives in research, enterprise, and infrastructure. It is informed by the Russell Group principles on generative AI in education, the EU AI Act (particularly Article 4 on AI literacy), and UNESCO's guidance on generative AI in education and research. Our Vision extends Imperial's existing Generative AI Principles into a strategic vision for the next 3-5 years, grounded in our core Values of Respect, Collaboration, Excellence, Integrity, and Innovation.

What we mean by "AI"

In this document, "AI" is an umbrella term. When we discuss generative AI, we mean tools that produce text, code, images, audio, or video in response to prompts. When we discuss AI, we may mean machine learning used for pattern recognition, prediction, classification, recommendation, image processing, or learning analytics. Guidance and policy that follow from the Vision will aim to specify which category is in scope, so that discussion is precise and concerns are addressed appropriately.

Guiding commitments

Our institutional approach is grounded in the following commitments:

Education-first, not tool-first. Start from learning outcomes and student experiences and adopt AI only where there is pedagogical benefit. Pilot with agility; scale with evidence. Evaluate rigorously what improves learning and what harms it and be transparent about both.

Human agency and accountability. Staff and students remain responsible for academic judgement and integrity. AI should support, not replace, expertise, relationships, and independent thinking.

Clarity by design. Expectations about AI use will be made unambiguous through curriculum, module, and assessment design, not necessarily through policy statements. We will communicate limitations and risks honestly.

Equity, accessibility, and inclusion. We will ensure that students and staff have fair and equitable access to approved AI tools. AI adoption must not create new disadvantages,

whether through unequal access, biased outputs, or failure to support the diverse needs of our community, including neurodivergent students and staff.

Privacy, data stewardship, and intellectual property. We will protect personal and institutional data and clarify ownership and reuse of outputs. We will also ensure that all AI tools and services, whether developed internally or provided by third parties, comply with applicable privacy, security, and intellectual property regulations through clear governance.

Sustainability and responsible innovation. The environmental cost of AI at scale is significant. We will consider environmental impact in tool procurement and adoption decisions and commit to regular review. Where environmental cost is disproportionate to educational benefit, this will weigh against adoption.

Empowered staff. The Vision also guides how we support our staff, who are central to delivering education. Staff will be resourced to carry out the educational redesign that AI demands. Professional judgement about AI use within disciplinary and professional contexts will be respected.

Prioritising well-being: We recognise that AI use can impact student well-being and mental health, and we commit to continuously learning about this aspect of AI to ensure students are effectively supported.

Our ambition

The Vision provides a university-level approach, while recognising that approaches to AI will vary across departments and disciplines. This diversity is necessary and desirable, as it ensures that pedagogical practices reflect the professional realities and priorities of each field. At the same time, we commit to shared minimum expectations: clarity about permitted use, baseline AI literacy, and an evidence-informed approach to assessment and student support.

Imperial will define and evidence the sector's gold standard for rigorous, human-centred higher education in a world where AI is ubiquitous. We will draw on our distinctive strength: our students learn AI in the same institution that builds it, with a curriculum continuously informed by, and contributing to, Imperial's own AI research, so that they engage with AI as it is being developed. We will go further than simply applying AI to existing approaches to learning and teaching, by actively exploring and testing innovative approaches afforded by AI that have the potential to enhance the quality of our education. Where the tools we need do not yet exist, we will build them, developing bespoke educational AI capability grounded in pedagogy and our own research rather than relying solely on commercial provision. We will share what we learn openly to advance practice across the sector.

We will recalibrate our education around what matters most for students and staff to flourish: human connection, intellectual challenge, and shared endeavour that technology

may enhance but not replicate. Every Imperial student will graduate with the ability to work confidently, critically, and responsibly with AI as relevant to their discipline. This includes understanding its capabilities and limits, recognising when not to use it, and considering its social, ethical, legal, and environmental implications. These outcomes will be embedded explicitly in curricula, assessment, and student experiences, rather than treated as optional or peripheral.

We will achieve this through a refreshed educational offer shaped in partnership with students and supported by learning environments that meet Imperial's practical needs and ethical standards. Delivering this requires staff who are equipped, resourced, and given time for the educational redesign that AI demands, and an environment of trust with dedicated space for experimentation, evaluation, and agile adaptation.

What success looks like in 3-5 years

In 3-5 years, Imperial will be recognised for an education model that embraces the opportunities afforded by AI to enhance teaching and learning whilst protecting deep disciplinary learning and enabling students to use AI responsibly for real-world problem solving. In practical terms, the following will be true across our taught provision:

- *Mastery by design*: our curricula determine, through deliberate pedagogical judgement, which competencies require independent human mastery ('AI-off') and which are best developed with AI from the outset ('AI-on'). This judgement is grounded in each discipline rather than in blanket rules or the current capabilities of the tools, and it becomes a model others adopt,
- *AI expectations made explicit*: every course makes AI expectations unambiguous in its learning materials and assessment briefs,
- *Graduates are prepared for an AI-influenced professional landscape*: they are sought after for the critical AI engagement, independent judgement, and human skills that define an Imperial graduate, shaping what employers and professions come to expect,
- *AI used for public good*: our students learn to apply AI in ways consistent with Imperial's Science for Humanity strategy, improving health, sustainability and society, while recognising limitations, bias, power dynamics and environmental costs,
- *Staff are supported and valued*: training, time, exemplars and secure tools are provided, and AI reduces administrative burden rather than eroding educational quality or professional roles,
- *Imperial is a clear leader*: through a dedicated research and evaluation programme, we generate rigorous evidence on what works in AI and education, publish evaluated exemplars, and shape responsible policy and practice nationally and internationally.

Implementation and Timescale

The Vision imagines where we want to be in 3-5 years, aligning with Imperial's Science for Humanity and Learning and Teaching Strategies, and with the Imperial Class of 2030 initiative. It is designed to serve as a springboard for defining strategic priorities that will then guide decisions around allocation of funding to drive practical developments and initiatives.

We will develop and publish a staged delivery roadmap, reviewed annually, with clear ownership, evaluation and resourcing. Delivery will draw on Imperial's AI expertise across research and education, and on partnership with students and staff in each discipline.

Five Strategic Pillars of Activity

Our Vision will be delivered through five strategic and interconnected pillars of activity.

Pillar 1 – AI Literacy and Competency

Pillar 2 – Curriculum Development, Assessment and Pedagogy

Pillar 3 – Academic Integrity and Responsible use of AI

Pillar 4 – Culture and Organisational Readiness

Pillar 5 – Data, Technology, and Infrastructure

Pillar 1 – AI Literacy and Competency

Ambition

All students and education-facing staff will be empowered to engage with AI to a level sufficient for informed, critical decision-making, grounded in essential human skills. We will provide a structured, role- and discipline-sensitive programme to support this ambition, with learning opportunities that enable individuals to engage with AI at an appropriate level of depth and of responsibility for their discipline and role.

This programme will include pathways for developing ethical awareness around AI use and, where relevant, for building, auditing, and interrogating AI systems. It will offer practical training (including prompt engineering, evaluation of outputs, and safe configuration of approved tools), as well as opportunities to develop advanced discipline-specific AI knowledge and experience with professional AI practice.

Proposed priority actions

- Increase the provision of hands-on, practical learning about AI capabilities, limitations, and real-world use, including how to evaluate outputs and manage uncertainty,
- Establish clear expectations for AI literacy and what it encompasses, outlining indicative skills and competencies for students and staff, and being explicit about which types of AI are in scope,
- Develop a holistic, core foundational offer for all students, accommodating a range of attitudes and abilities,
- Develop a robust, role-based training offer for teaching staff and education-facing professional services and research staff, including practical skills (prompting, tool configuration, data protection, and inclusive practice) and provide time and recognition for engagement.

Pillar 2 – Curriculum Development, Assessment and Pedagogy

Ambition

We will reshape how our education is designed, delivered, and assessed in response to AI. Our curricula, teaching, and assessments will be grounded in the skills and attributes our graduates need, enabling students to demonstrate deeper understanding and higher-order thinking in diverse and authentic ways. AI will be integrated carefully and thoughtfully to strengthen human connection, critical judgement and meaningful learning. This includes exploring how AI tools can directly support learning, whilst human teaching remains central. Changes will be rigorously evaluated to ensure our standards remain high, the value of an Imperial education is clear and credible, and assessment remains fair and inclusive.

Proposed priority actions

- Develop an "AI learning mode" framework that defines when AI should and shouldn't be used in learning, suitable for local adaptation,
- Re-evaluate the curriculum to ensure it promotes genuine learning in the presence of AI, and strengthen alignment between outcomes, pedagogy, and assessment,
- Develop and share assessment design guidance and exemplars that make AI expectations unambiguous and promote genuine learning in the presence of AI,
- Ensure AI-related competencies are explicitly aligned with graduate attributes throughout the curriculum, including ethical, legal and environmental considerations.

Pillar 3 – Academic Integrity and Responsible use of AI

Ambition

Imperial will establish a clear and trusted model of academic integrity for the use of AI grounded in transparency, responsibility, and learning. This model will be supported through teaching methods and purposeful assessment design, rather than surveillance. Students will be able to demonstrate their understanding through their own effort; staff will model these same standards in their teaching, assessment, and scholarly practice. Ethical decision-making, and the ability to justify and evidence it, will be integrated into the academic practice of staff and students.

Proposed priority actions

- Provide clear, consistent guidance on what is permitted and expected in relation to AI use and embed this guidance in assessment briefs and learning design so that expectations are clear by design,
- Frame academic integrity around clarity, responsibility, and learning, not surveillance, and be honest about the limitations of automated detection,
- Design assessments that reflect realistic AI use where appropriate, while still requiring students to evidence their own understanding (for example, through process, reflection, viva/oral elements, or in-person components where suitable),
- Educate students explicitly on why they should not rely on AI as a shortcut or use it to cheat, linking integrity to learning, developing as an independent thinker, professional identity and responsible citizenship.

Pillar 4 – Culture and Organisational Readiness

Ambition

Imperial will adopt dynamic ways of working in education that enable and support rapid experimentation and adaptation in response to AI, supported by central and local experts. Decision-making will draw upon diverse perspectives across the academic community, with staff and students working as partners in shaping, piloting, and evaluating new approaches. This commitment will be grounded in a culture of trust, in which leadership accepts managed risk as a necessary condition for innovation and provides a safe environment for experimentation, with clear guardrails and appropriate resourcing.

Proposed priority actions

- Develop agile and adaptive ways of working across the institution that enable timely and appropriate responses to the rapid pace of change related to AI,
- Invest in staff capability and well-being by recognising the time required for educational redesign, providing practical support, and sharing evaluated exemplars to reduce duplication,
- Establish new roles to progress workstreams and foster innovation locally, using a 'champions' or 'ambassadors' model, supported by central expertise and clear governance,
- Develop mechanisms for measuring the impact of AI on student and staff well-being, sense of belonging, experience of inclusion and connection, and staff workload.

Pillar 5 – Data, Technology, and Infrastructure

Ambition

Imperial will operate a robust, fit-for-purpose AI environment for education. This environment will combine centrally supported platforms with in-house capability to design, test, and deploy bespoke educational AI tools where needed. These services will support learning, teaching, feedback, and timely intervention, while giving staff and students access to trusted AI capabilities shaped by Imperial expertise.

We will maintain and strengthen partnerships between Digital Education teams and the wider education community, ensuring clarity around the use of centrally supported tools and building shared awareness of emerging technical developments in AI. Our approach will enable innovation at scale while maintaining clear governance.

Proposed priority actions

- Enable the deployment of university-supported AI platforms, with clear communication to the Imperial community as to what tools and platforms are approved, and how they are selected.
- Establish transparent evaluation and procurement frameworks for AI tools, including criteria on privacy, security, accessibility, intellectual property, sustainability, and educational value.
- Enable agile experimentation with AI tools while maintaining appropriate governance, oversight, and pathways for scaling what works.
- Build the specialist capacity needed for responsible adoption by investing in technical, data, governance, and operational expertise required to implement, maintain, and improve AI systems.

Imperial AI Futurists, Imperial College Union President, ICU Deputy President (Education), Associate Provost (Digitally Enhanced Learning and Teaching) & Vice-Provost (Education and Student Experience) - Imperial College London - April 2026

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How we developed the Vision

The Vision was collaboratively produced by the AI Futurists and key stakeholders including: the Vice-Provost (Education and Student Experience), the Associate Provost (Digitally Enhanced Learning and Teaching), ICU representatives, members of the Educational Development Unit (EDU) and of the Centre for Academic English (CfAE), and the Director of Digital Education Services, with initial input from the AI Teaching and Assessment Working Party. It has been refined through consultation with staff and students, including town halls, feedback surveys, and discipline-level discussions, drawing on a range of perspectives from enthusiastic to cautious and critical.

AI disclosure statement

AI tools (Claude Opus 4.6, Anthropic, <https://www.app.lorka.ai/> and Microsoft Copilot, <https://copilot.microsoft.com/>) were used during the drafting process to assist with feedback analysis, structural editing, and document preparation. All analytical judgements, editorial decisions, and policy positions are the authors' own. The use of AI in producing this document reflects the approach the Vision itself advocates: informed, transparent, with rigorous human oversight.