



## AI Foundations to Enhance Human Skills

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**Domain:** Curriculum Development & Design

**Challenge Area:** Embedding Transversal Skills and AI Literacy

**Status:** Established Best Practice (validated and replicable practices)

**Implementation Complexity:** Medium

Within Tecnológico de Monterrey's 2030 Strategic Plan, priority is given to integrating Artificial Intelligence (AI) into the teaching and learning process through the Educational AI strategy, based on the Fundamentals of AI to Enhance Human Skills. This initiative establishes a shared framework of technical, ethical, and practical AI knowledge that enables students to understand AI, use it critically, and apply it responsibly in academic, professional, and everyday contexts.

AI Foundations is a core element of the institution-wide study plan update planned for 2026. It recognises the importance of creating educational experiences that foster the development of five competencies in all students: Critical Thinking, Ethics, Communication, Future Thinking, and Innovation.

### Practical Implementation

The AI Foundations framework was developed as a central pillar of Tecnológico de Monterrey's AI in Education Strategy under the 2030 Strategic Plan. Its design was informed by an extensive research and benchmarking phase aimed at identifying the essential skills students need in an AI-driven future.

This research included:

- External benchmarking of nine global reference frameworks from organisations such as UNESCO and the Digital Education Council, leading universities, specialised publications, and industry impact reports.
- Identification of core characteristics, highlighting that AI training must prioritise critical thinking, ethical awareness, and creative problem-solving, rather than focusing solely on technical skills.
- Contextualisation of the framework to reflect the institution's values, the Tec21 educational model, and its social and educational context.

At the pedagogical level, the framework is organised into four core components: Understanding AI, Ethics and Responsibility, Efficient Use and Application in Solution Design. These components are developed through cross-disciplinary competencies, including Critical Thinking, Communication, Ethics, Futures Thinking, and Entrepreneurial Innovation.

Implementation follows distinct pathways across educational levels:

- High School: AI Foundations are integrated into strategic learning trajectories, most notably through the national course "AI Fundamentals for Curious Minds."

- Undergraduate: AI foundations are embedded within General Education through focused modules and digital learning experiences integrated into existing programmes and new learning units.
- Postgraduate: Transversal academic trajectories are being developed through the courses “Fundamentals of AI I” and “Fundamentals of AI II,” which will be available across postgraduate programmes.

Impact Indicator	Enablers
<p>The impact of this best practice has been measured through indicators aligned with the different components of the AI Foundations framework. A key outcome has been the development of Learning Digital Experiences (EDAs), which are beginning to influence the broader update of study plans across the institution.</p> <p>To date, 35 designer-teachers from different disciplines have collaborated in the development of EDAs. These learning experiences have been incorporated into teaching practices and are currently impacting more than 1,000 students across all Schools. At the high school level, the course “AI Fundamentals for Curious Minds” has been implemented nationally and has reached more than 11,000 students, supporting early engagement with AI concepts and the development of digital and analytical skills.</p> <p>At postgraduate level, the courses “Fundamentals of AI I” and “Fundamentals of AI II” are currently under development and will be made available institution-wide. In parallel, the Directorate of Educational AI is promoting the systematic integration of EDAs into instructional design processes at the national level. This ongoing effort supports long-term curriculum transformation and ensures sustained impact on academic programmes and teaching practices.</p>	<ul style="list-style-type: none"> <li>• Institutional AI in Education Strategy (2030 Strategic Plan)</li> <li>• AI Foundations competency framework</li> <li>• Learning Digital Experiences (EDAs)</li> <li>• Interdisciplinary faculty designer teams</li> <li>• Strong alignment with institutional values and educational model (Tec21)</li> </ul>