

Human-AI Interface Curriculum Development Plan

For Private, Charter, and Independent Schools (Grades K–6, Expandable to K–12)

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Introduction: Preparing Future-Ready Thinkers Today

Artificial Intelligence is no longer a futuristic vision—it is a transformative force in today’s economy, culture, and daily life. As AI systems redefine white-collar work and reshape the demands of professional skillsets, the leaders of tomorrow are sitting in K–12 classrooms today.

To prepare students for this rapidly changing landscape, early education must go beyond using AI as a teacher’s convenience tool (e.g., test generation, grading assistance). Instead, we must develop students’ ability to **communicate with, collaborate with, and responsibly guide AI systems**—not just use them.

Private, charter, and independent schools—such as *Greenfield Preparatory Academy*—are ideal incubators for leading this transformation. Their flexibility, innovation, and mission-driven culture position them to launch a forward-thinking **Human-AI Interface Curriculum**, starting in grades **K–6** with modular design for expansion through **K–12**.

This curriculum emphasizes two integrated pillars:

1. **Core AI Skills Development**
2. **Cooperative AI-Based Research Projects** (*also referred to as FutureMinds AI Lab*)

Optional integration of platforms such as **Numberfly**, a game-style, web-based environment that reinforces logic and pattern recognition, may be used as a supplemental tool for math engagement.

Curriculum Structure Overview

Track 1: Core AI Skills Development (K–6)

Goal: Build foundational understanding and applied communication skills with AI tools, through activities that scale with cognitive development and academic progress.

Grade	Core Skills	Example Activities
K	Curiosity, basic pattern recognition	Voice interactions, AI stories, coloring with smart tools
1	Simple verbal/text prompts	Ask AI questions, basic logic puzzles, Scratch Jr.
2	Recognition of AI as “assistant”	Guided writing with AI, logic games
3	Structured prompt writing	AI brainstorming, Numberfly puzzle-solving
4	Data exploration, prompt optimization	AI vs. human reasoning challenges
5	Ethical reasoning, code snippets	Create AI-based quizzes, small group debates
6	Algorithmic thinking, AI critique	Simulation projects, student-led teaching via AI

Track 2: Cooperative AI-Based Research Projects (FutureMinds AI Lab)

Goal: Inspire out-of-the-box, team-based inquiry using AI tools as collaborators to **explore, design, and build**.

Key Features

- Cross-grade teams (e.g., 3rd–6th grade)
- After-school and classroom integration
- Mentorship model: older students support younger

- Emphasis on design thinking, curiosity, and risk-taking

Example Projects by Theme

Project Title	Focus	Skills/Tools
AI Builds a Playground	Urban planning + geometry	Drawing apps, AI images, math puzzles
Design a Friendly Robot	Human-robot interaction	Cardboard prototyping, speech interfaces
Our Climate Plan	Sustainability + data	Research with AI, charts, scenario modeling
News or Not?	Media literacy	AI detection tools, logic trees
Mini Mars Colony	Space planning, STEM	AI scenario design, storytelling, drawing

Inter-Grade Collaboration Philosophy

Mixed-grade teams foster:

- Peer-to-peer teaching and leadership
- Younger students' exposure to advanced concepts
- Realistic experience mirroring future workplace collaboration

Students learn that age is not a barrier to teamwork—and that ideas, communication, and mutual support drive innovation.

Technology and Tool Integration

- **Core Tools:** Browser-based AI platforms (ChatGPT, DALL-E, etc.)
- **Optional Tools:** Scratch, Code.org, Canva, Numberfly
- **Hardware:** Chromebooks/tablets (1 per 2–3 students minimum)
- **Safety Controls:** All AI tools should operate under school-wide security filters and teacher moderation layers

Implementation and Teacher Training

Curriculum Development:

- Phased roll-out by grade tier (K–2, 3–4, 5–6)
- Customization supported by AI-education consultants

Teacher Training:

- 1-week AI fluency bootcamp (in-person or virtual)
- Ongoing access to online PD resources and forums
- Training includes: AI ethics, prompt engineering, tools like Numberfly, Scratch, ChatGPT, and more

Infrastructure and Resources:

- Shared digital library of AI projects and prompts
- Classroom kits for prototyping (recycled materials, basic sensors optional)
- Student-safe AI access platforms

Suggested Staffing and Budgeting

School Size	Staffing	Annual Budget Estimate
Small (<100 students)	1 part-time curriculum lead + 1–2 trained teachers	\$30,000–\$50,000
Medium (100–500 students)	1 full-time AI coordinator + 3–5 teachers	\$75,000–\$125,000

Large (500–1,000+ students)

AI Program Director + 6–10 instructors

\$150,000–\$250,000

Recommended Staff Qualifications

- Teaching certification
- STEM or interdisciplinary education background
- Interest or experience in AI tools (AI bootcamps recommended)
- Leadership and group facilitation experience

Suggested Grant Sources

Public Grants

- NSF STEM+C Program (National Science Foundation)
- US Department of Education – Education Innovation & Research
- ESSA Title IV – Student Support and Academic Enrichment
- Local/State Department of Education AI Pilot Programs

Private Foundations

- Chan Zuckerberg Initiative (Education track)
- Lemelson Foundation (Innovation in STEM)
- Siegel Family Endowment (Future of Learning)
- Infosys Foundation USA (CS & Making)
- Google.org, NVIDIA, and Microsoft corporate education grants

Vision for Future Expansion (Grades 7–12)

This plan offers a strong developmental scaffold for middle and high school programs:

- **Grades 7–8:** AI simulation environments, model testing, logic design
- **Grades 9–12:** AI + humanities, entrepreneurship, ethics, mentorships, and dual-enrollment courses

This allows schools to grow from foundational readiness to career and college-level fluency in AI by graduation.

Conclusion: Education for the AI-Augmented Era

This Human-AI Interface Curriculum is not just about teaching students how to use technology—it’s about teaching them how to *think alongside* it. Through guided skill-building, collaborative research projects, ethical exploration, and hands-on design, students will be prepared for a world where AI is not a novelty, but a daily companion.

The Human-AI Interface Curriculum nurtures:

- Ethical and confident AI interaction
- Cross-disciplinary creativity
- Mathematical and logical thinking
- Real-world collaboration skills

Private and charter schools are uniquely suited to implement and lead in this educational evolution. However, the curriculum’s flexible design allows it to be adopted by **any school in the U.S.**, large or small, rural or urban, public or private.

We are preparing not just better students—but **future-ready thinkers, creators, and collaborators** who will define how humanity and AI move forward, together.

